EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1303	((549/70) or (546/314) or (546/315)).CCLS.	US-PGPUB; USPAT	OR	OFF	2007/10/11 18:33
L2	184	1 and heterocyclic and aldehyde	US-PGPUB; USPAT	OR	OFF	2007/10/11 18:34

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TERMINAL (ENTER 1, 2, 3, OR ?):2

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NEWS	2	JUL 02	LMEDLINE coverage updated
NEWS	3	JUL 02	SCISEARCH enhanced with complete author names
NEWS	4	JUL 02	CHEMCATS accession numbers revised
NEWS	5	JUL 02	CA/CAplus enhanced with utility model patents from China
NEWS	6	JUL 16	CAplus enhanced with French and German abstracts
NEWS	7	JUL 18	CA/CAplus patent coverage enhanced
NEWS	8	JUL 26	USPATFULL/USPAT2 enhanced with IPC reclassification
NEWS	9	JUL 30	USGENE now available on STN
NEWS	10	AUG 06	CAS REGISTRY enhanced with new experimental property tags
NEWS	11	AUG 06	BEILSTEIN updated with new compounds
NEWS	12	AUG 06	FSTA enhanced with new thesaurus edition
NEWS	13	AUG 13	CA/CAplus enhanced with additional kind codes for granted patents
NEWS	14	AUG 20	CA/CAplus enhanced with CAS indexing in pre-1907 records
NEWS	15	AUG 27	Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB
NEWS	16	AUG 27	USPATOLD now available on STN
NEWS	17	AUG 28	CAS REGISTRY enhanced with additional experimental spectral property data
NEWS	18	SEP 07	STN AnaVist, Version 2.0, now available with Derwent World Patents Index
NEWS	19	SEP 13	FORIS renamed to SOFIS
NEWS	20	SEP 13	INPADOCDB enhanced with monthly SDI frequency
NEWS	21	SEP 17	CA/CAplus enhanced with printed CA page images from 1967-1998
NEWS	22	SEP 17	CAplus coverage extended to include traditional medicine patents
NEWS	23	SEP 24	EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS	24	OCT 02	CA/CAplus enhanced with pre-1907 records from Chemisches Zentralblatt

NEWS EXPRESS	19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.
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FILE LAST UPDATED: 10 Oct 2007 (20071010/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s shiomi, y?/au and uno, o?/auand ohta, a?/au and sunakami, t?/au
'?' TRUNCATION SYMBOL NOT VALID WITHIN 'UNO, O?/AUAND OHTA, A?'
The truncation symbol ? may be used only at the end of a search term. To specify a variable character within a word use '!', e.g., 'wom!n' to search for both 'woman' and 'women'. Enter "HELP TRUNCATION" at an arrow prompt (=>) for more information.

=> s shiomi, y?/au and uno, o?/au and ohta, a?/au and sunakami, t?/au
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           228 SHIOMI, Y?/AU
            37 UNO, O?/AU
           930 OHTA, A?/AU
             2 SUNAKAMI, T?/AU
L1           1 SHIOMI, Y?/AU AND UNO, O?/AU AND OHTA, A?/AU AND SUNAKAMI, T?/AU
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=> d l1, ibib abs hitstr, 1

L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:	2003:777759 HCAPLUS
DOCUMENT NUMBER:	139:276804
TITLE:	Process for producing heterocyclic aldehyde
INVENTOR(S):	Shiomi, Yasuhiro; Uno, Osamu; Ohta, Akio; Sunakami, Takeshi
PATENT ASSIGNEE(S):	Koei Chemical Co., Ltd., Japan

Updated Search

SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2003080575	A1	20031002	WO 2003-JP3568		20030325
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
AU 2003221048	A1	20031008	AU 2003-221048		20030325
GB 2404190	A	20050126	GB 2004-21452		20030325
US 2005124807	A1	20050609	US 2003-509228		20030325
PRIORITY APPLN. INFO.:			JP 2002-86974	A	20020326
			WO 2003-JP3568	W	20030325

OTHER SOURCE(S): MARPAT 139:276804

AB The patent relates to a process in which a heterocyclic alc. is oxidized to produce a heterocyclic aldehyde with high selectivity in high yield. The process comprises reacting a heterocyclic compound having per mol. at least one hydroxymethyl group bonded to a carbon atom of the heterocycle with a hypohalogenous acid salt in the presence of a base to oxidize the hydroxymethyl group to thereby produce the corresponding heterocyclic aldehyde, wherein the reaction is conducted in the presence of a 2,2,6,6-tetramethylpiperidin-1-oxyl derivative having per mol. two or more 2,2,6,6-tetramethylpiperidin-1-oxyl-4-yl groups. Thus, 3-pyridine-methanol was oxidized by sodium hypochlorite in presence of an oligomer derivative obtained from Chimassorb 944LD with hydrogen peroxide and generated 3-pyridinecarbaldehyde (90.1%) and nicotinic acid (3.4%).

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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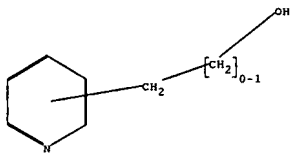

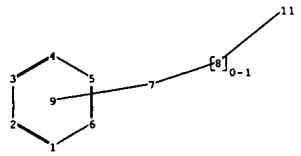

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ring nodes :
1 2 3 4 5 6
chain bonds :
7-8 8-11
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact bonds :
7-8 8-11
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 :

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:Atom 11:CLASS

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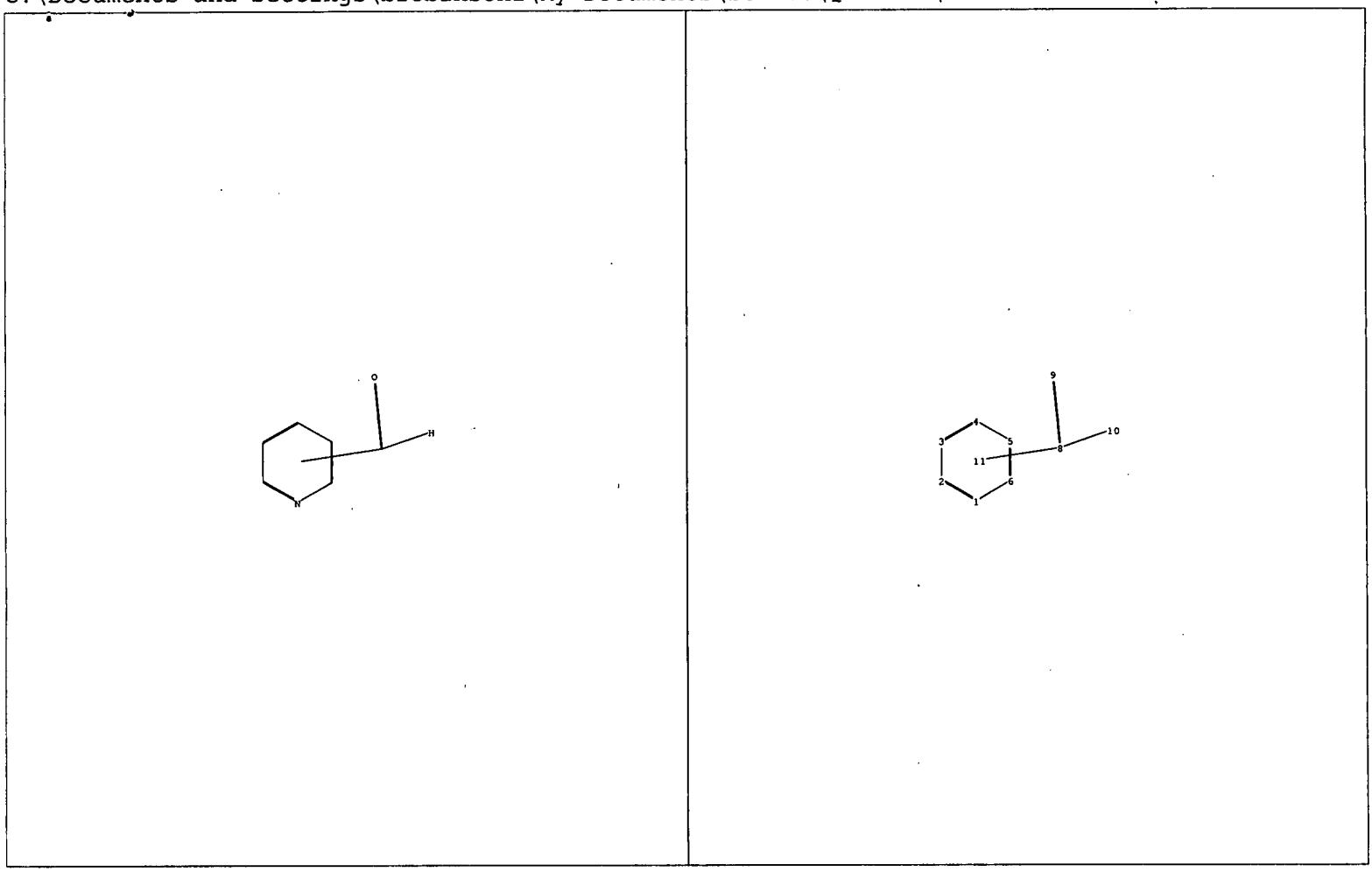

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ring nodes :
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chain bonds :
8-9 8-10
ring bonds :
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exact/norm bonds :
8-9
exact bonds :
8-10
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 :

Match level :
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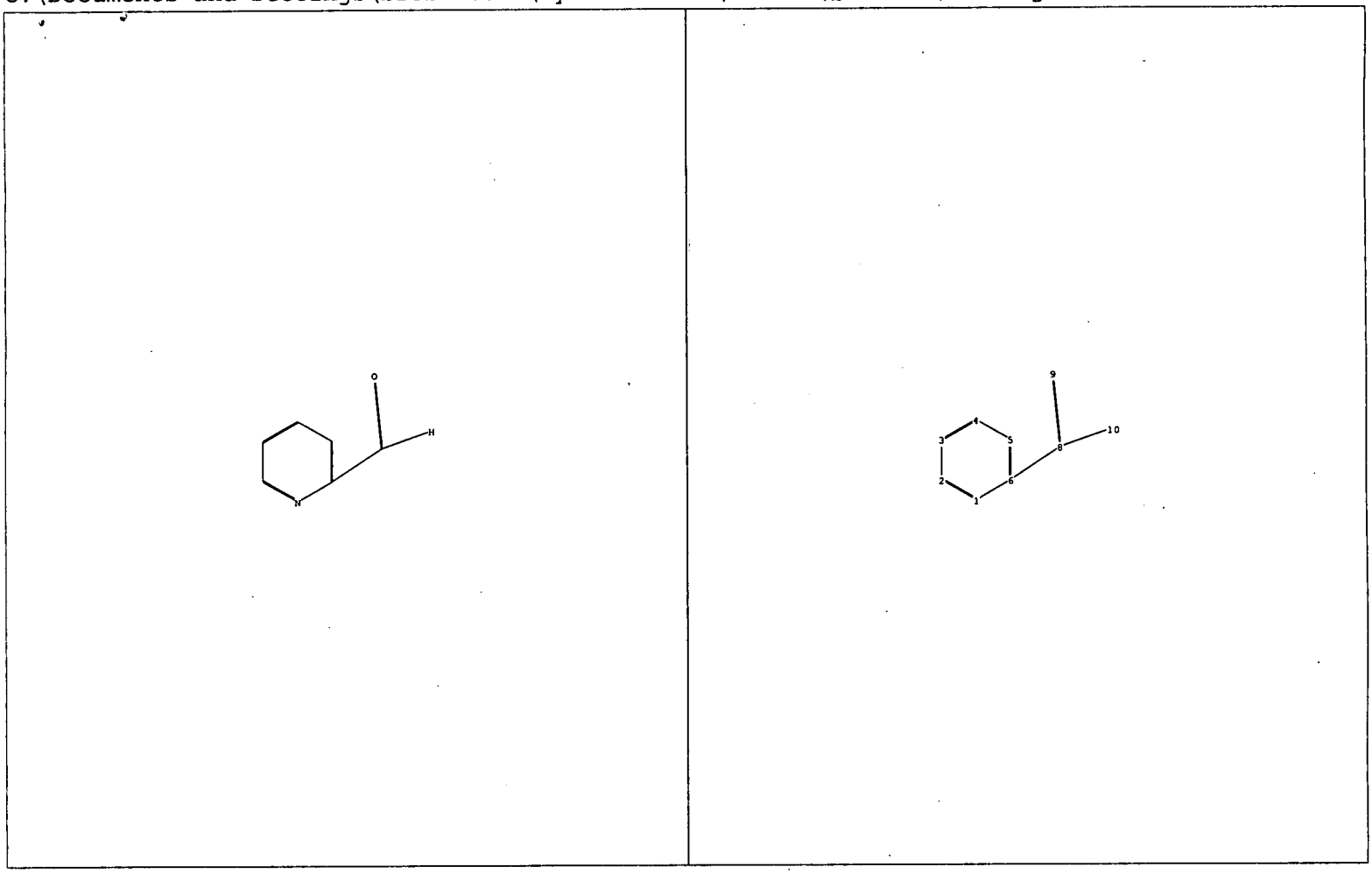

chain nodes :
    8 9 10
ring nodes :
    1 2 3 4 5 6
chain bonds :
    6-8 8-9 8-10
ring bonds :
    1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
    8-9
exact bonds :
    6-8 8-10
normalized bonds :
    1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
    containing 1 :

Match level :
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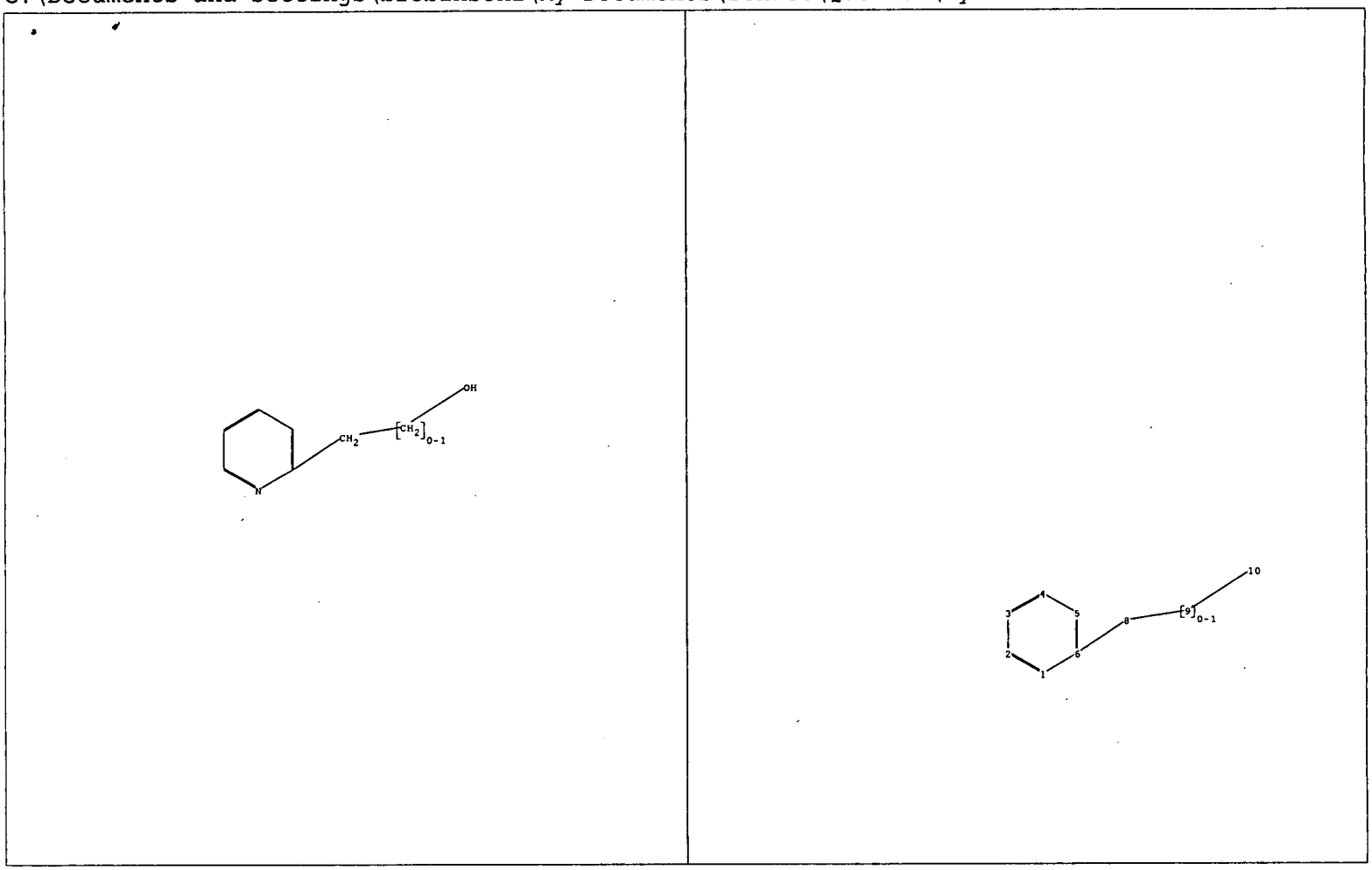

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ring nodes :
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chain bonds :
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ring bonds :
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exact bonds :
    6-8 8-9 9-10
normalized bonds :
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isolated ring systems :
    containing 1 :

Match level :
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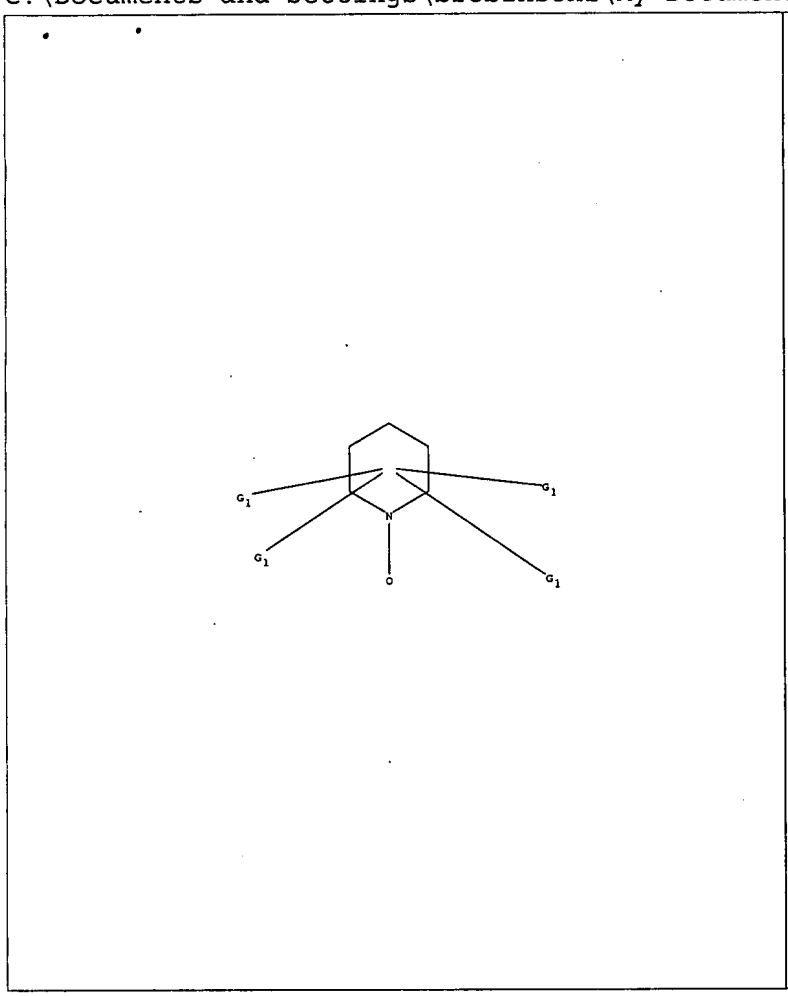

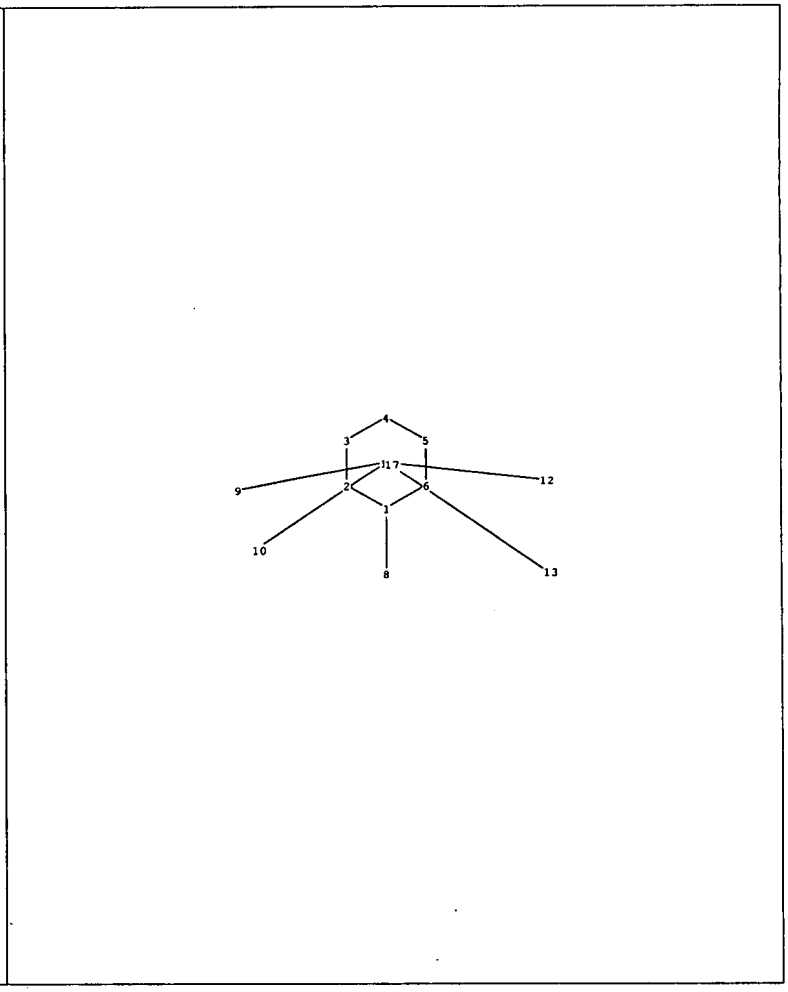

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chain bonds :
1-8
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
1-2 1-6 1-8 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 :

G1:CH3,Et

Match level :
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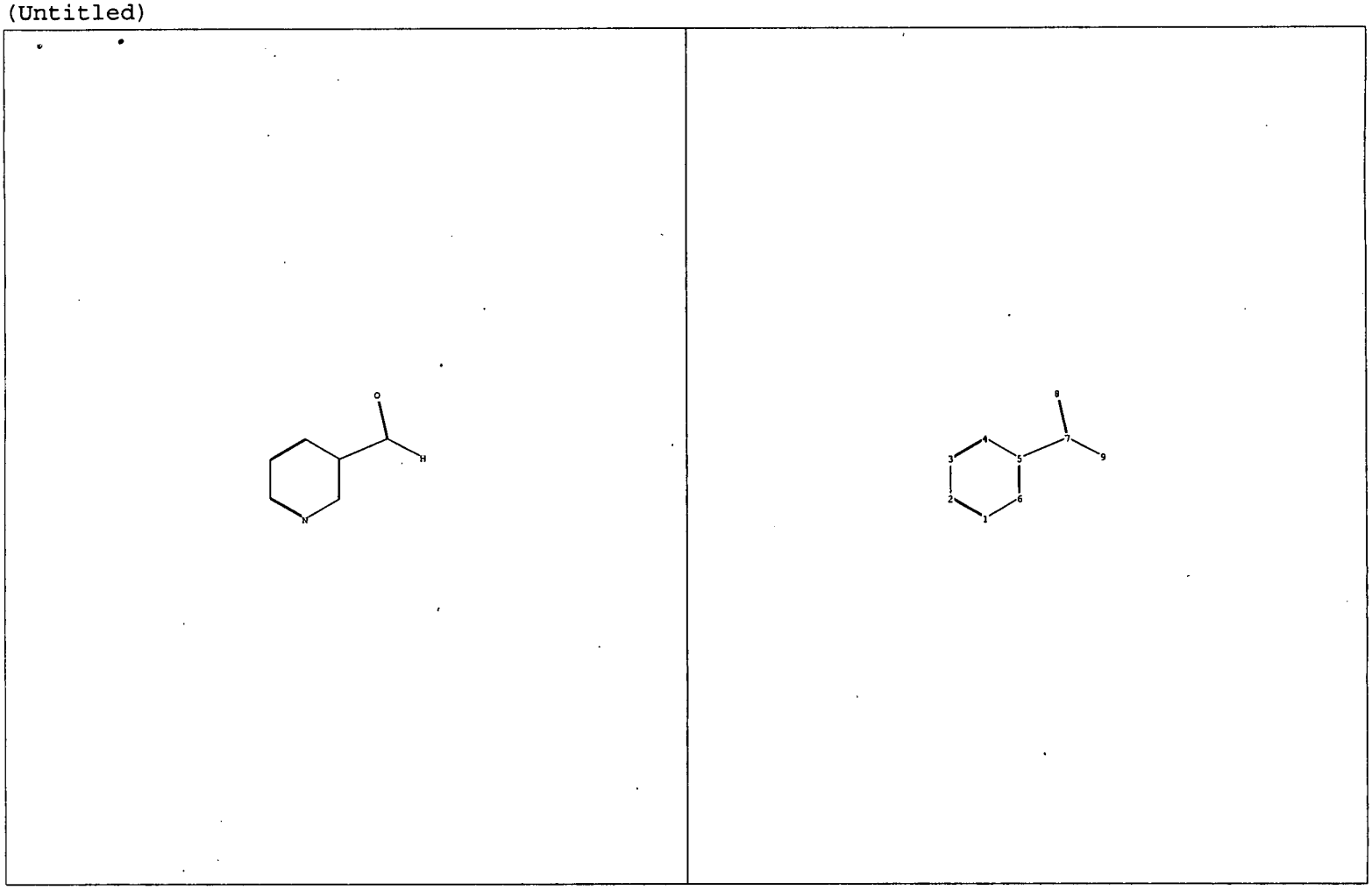

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ring nodes :
    1 2 3 4 5 6
chain bonds :
    5-7 7-8 7-9
ring bonds :
    1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
    7-8
exact bonds :
    5-7 7-9
normalized bonds :
    1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
    containing 1 :

Match level :
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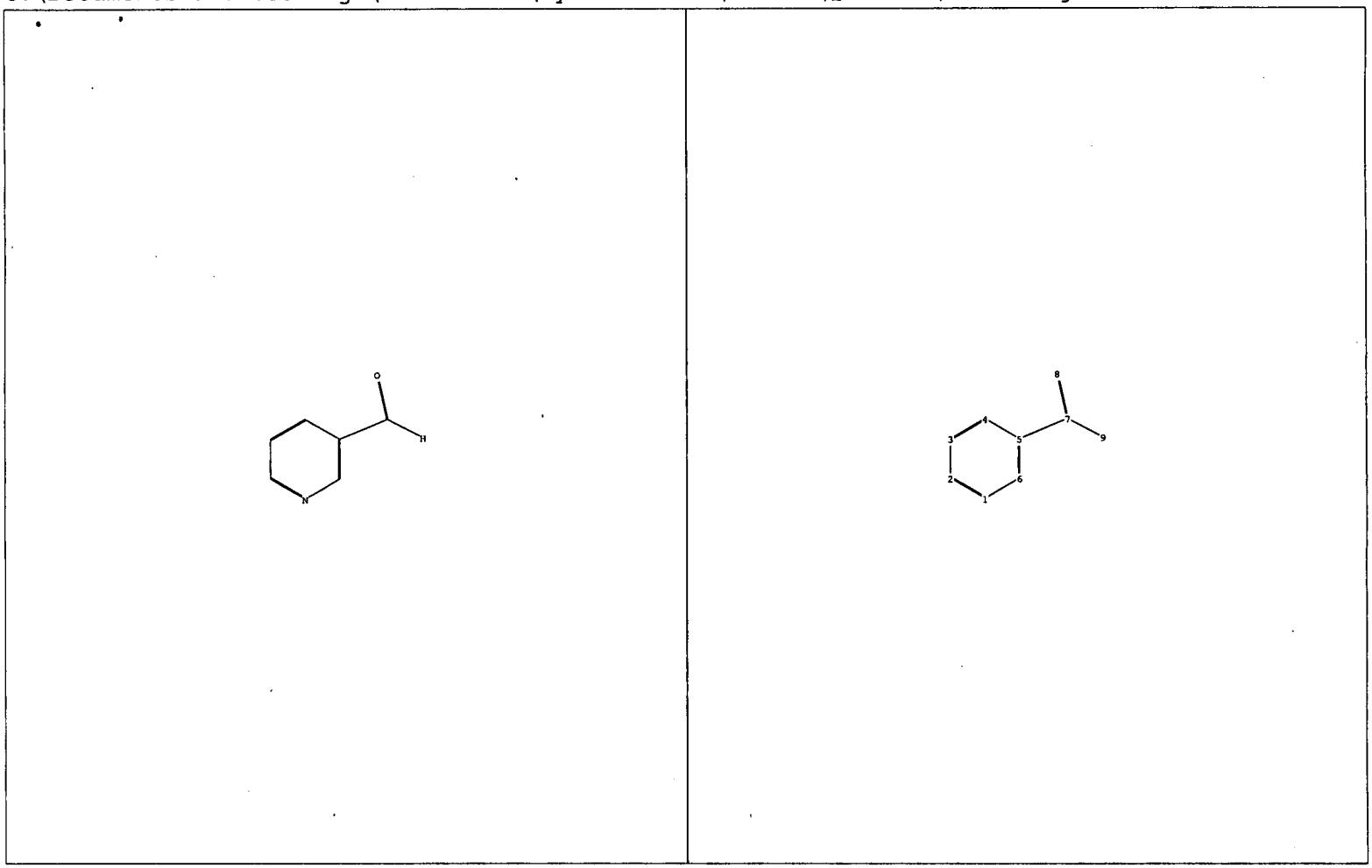

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ring nodes :
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ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
7-8
exact bonds :
5-7 7-9
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 :

Match level :
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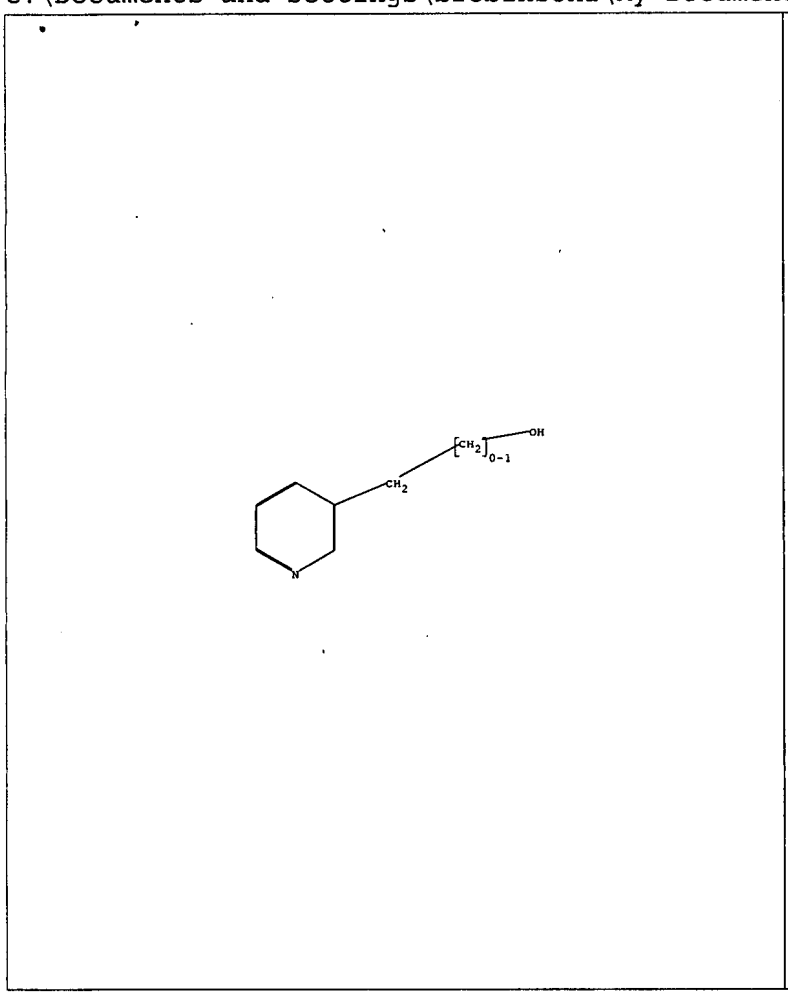

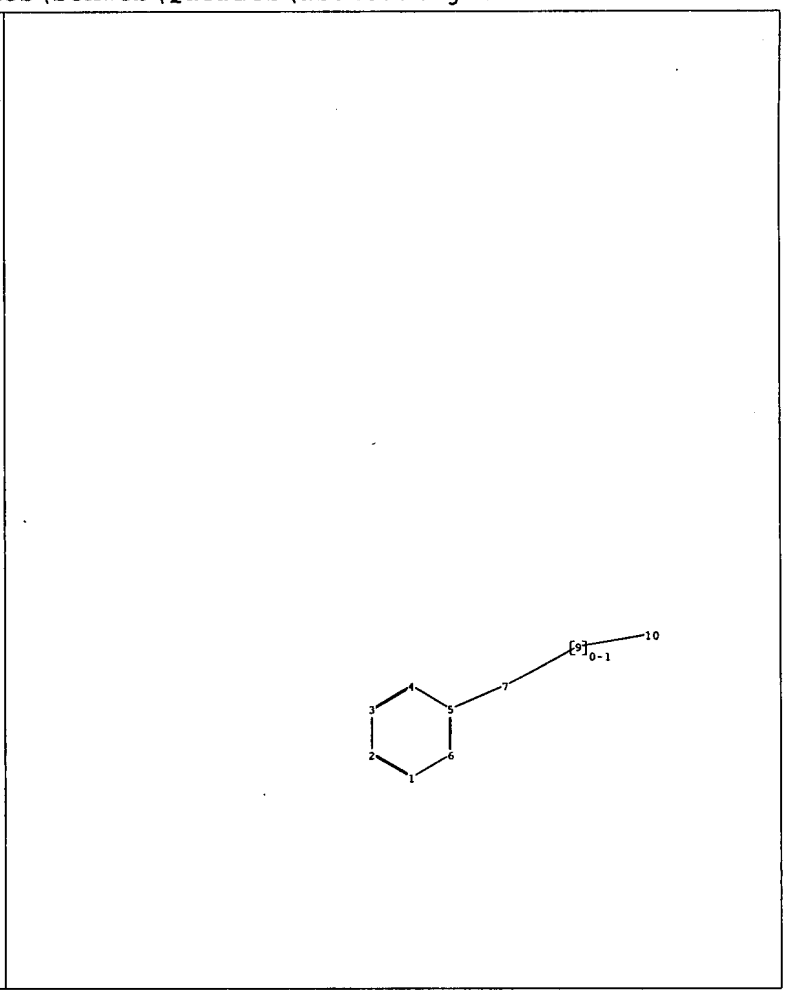

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ring bonds :
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5-7 7-9 9-10
normalized bonds :
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isolated ring systems :
containing 1 :

Match level :
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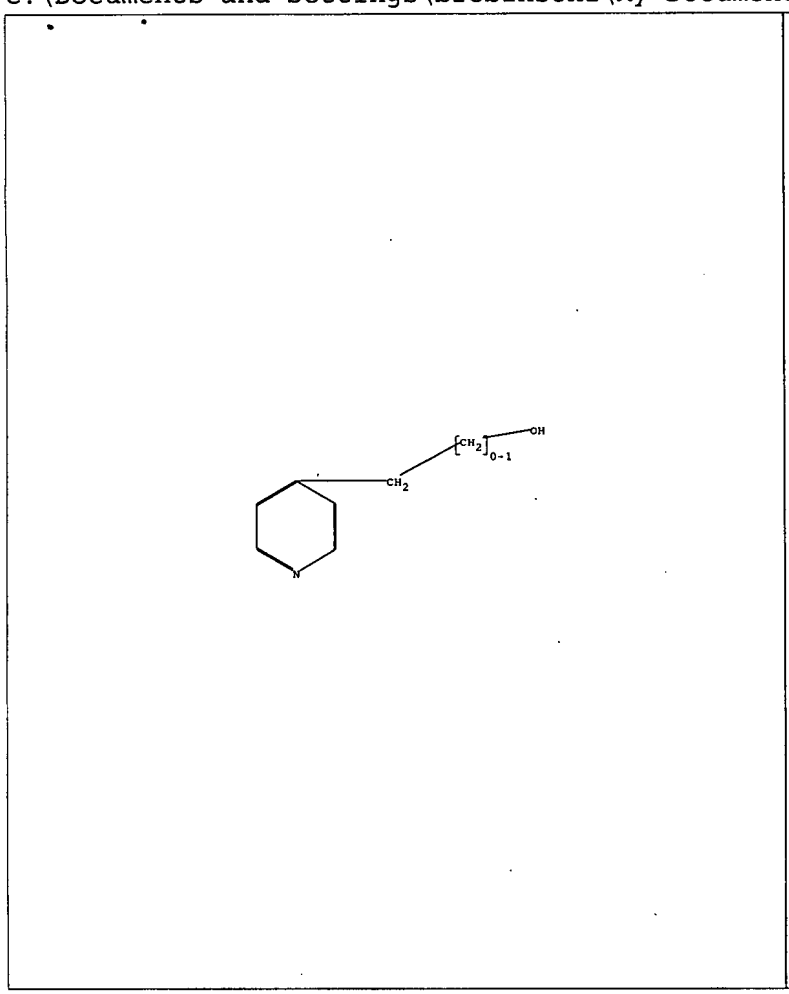

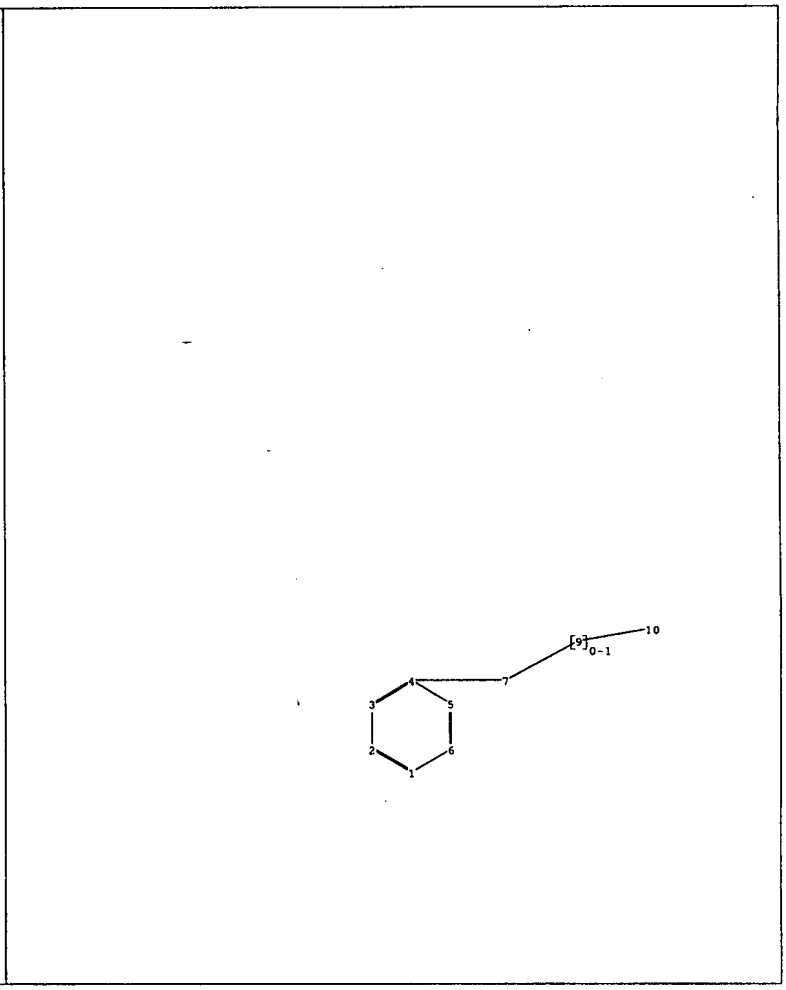

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exact bonds :
4-7 7-9 9-10
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 :

Match level :
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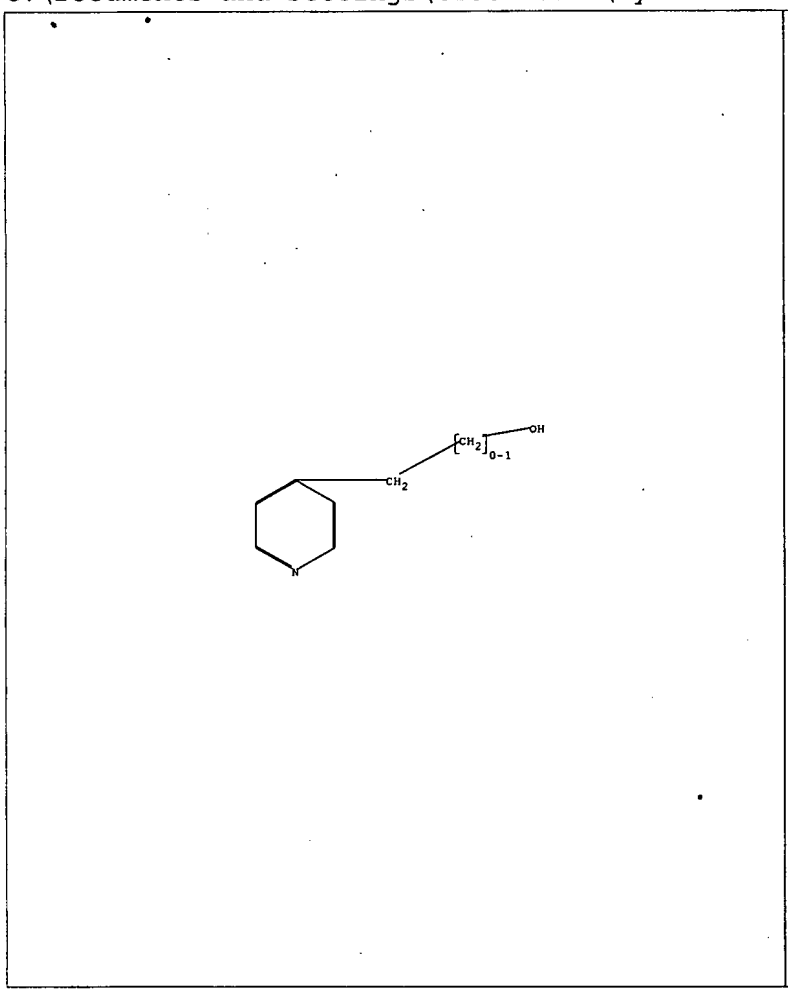

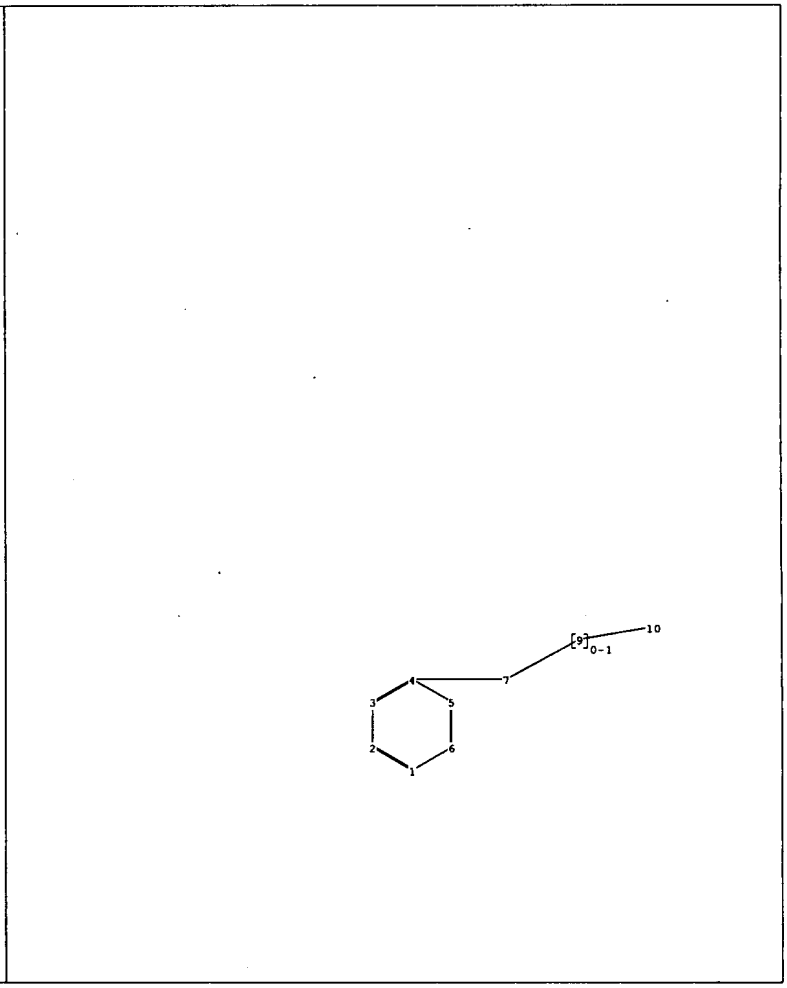

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ring nodes :
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chain bonds :
4-7 7-9 9-10
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exact bonds :
4-7 7-9 9-10
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 :

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 9:CLASS 10:CLASS

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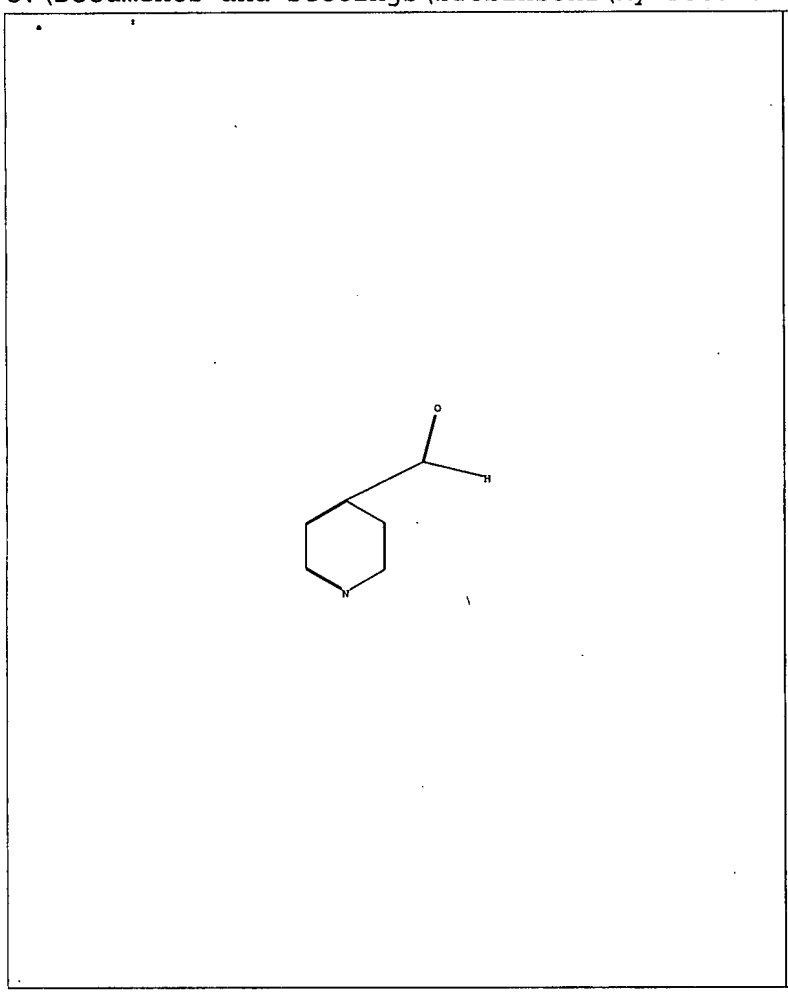

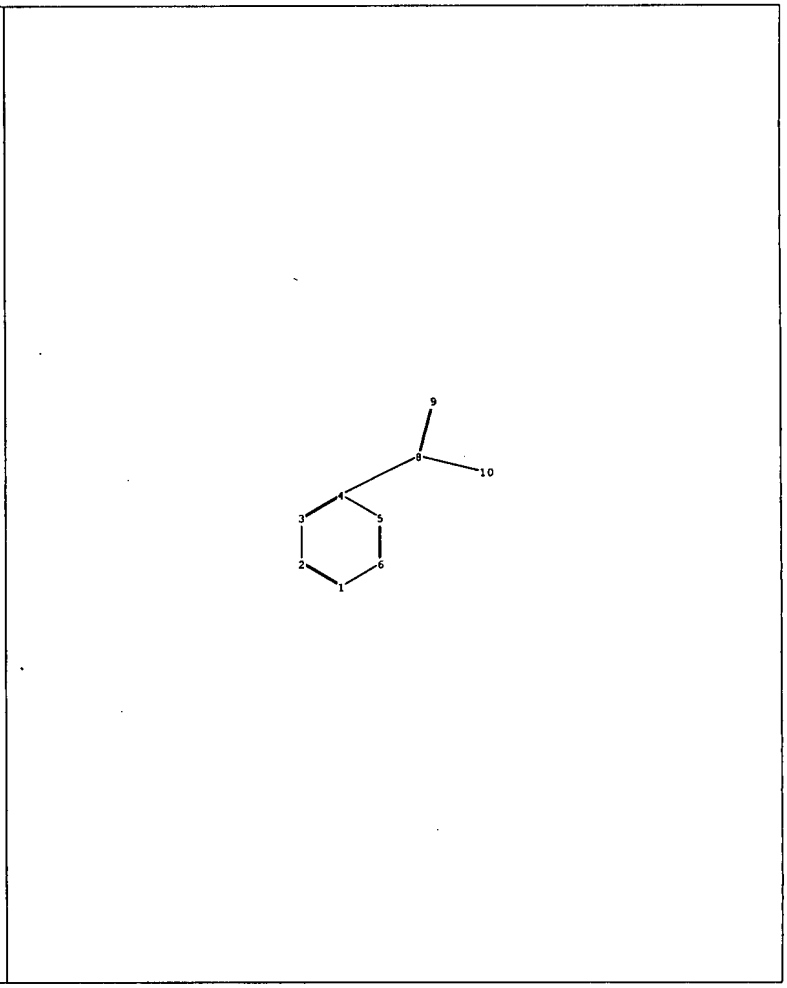

chain nodes :
8 9 10
ring nodes :
1 2 3 4 5 6
chain bonds :
4-8 8-9 8-10
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
8-9
exact bonds :
4-8 8-10
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 :

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:CLASS 10:CLASS

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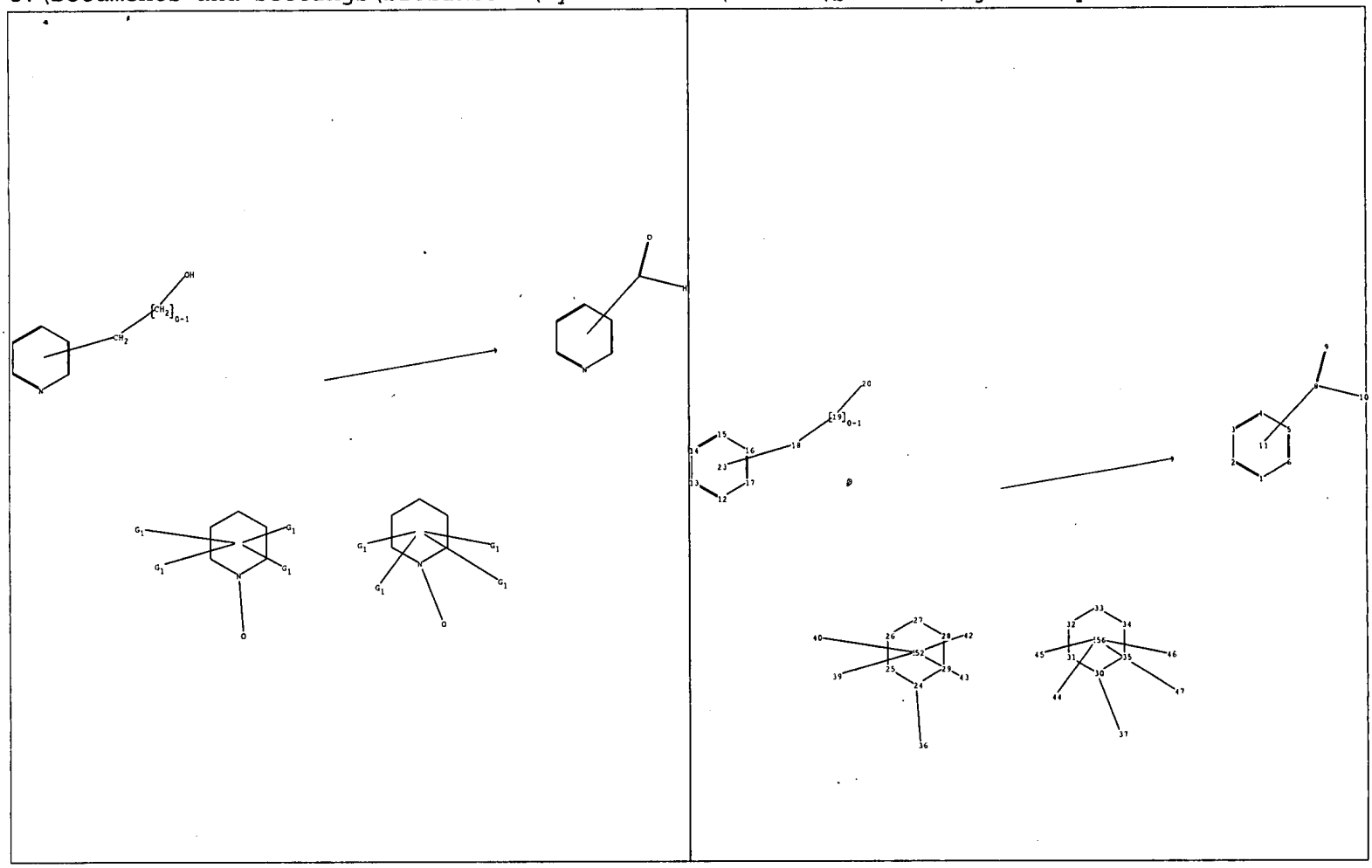

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ring nodes :
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chain bonds :
8-10 8-9 18-19 19-20 24-36 30-37
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 12-13 12-17 13-14 14-15 15-16 16-17 24-25 24-29
25-26 26-27 27-28 28-29 30-31 30-35 31-32 32-33 33-34 34-35
exact/norm bonds :
8-9 24-25 24-29 24-36 25-26 26-27 27-28 28-29 30-31 30-35 30-37 31-32 32-33
33-34 34-35
exact bonds :
8-10 18-19 19-20
normalized bonds :
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isolated ring systems :
containing 1 : 12 : 24 : 30 :

G1:CH3,Et

Match level :
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12:CLASS 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:CLASS 19:CLASS 20:CLASS
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44:CLASS

45:CLASS 46:CLASS 47:CLASS 49:Atom 50:Atom 51:Atom 52:Atom 53:Atom
54:Atom 55:Atom 56:Atom
fragments assigned reactant role:
containing 12
fragments assigned reagent role:
containing 24
containing 30
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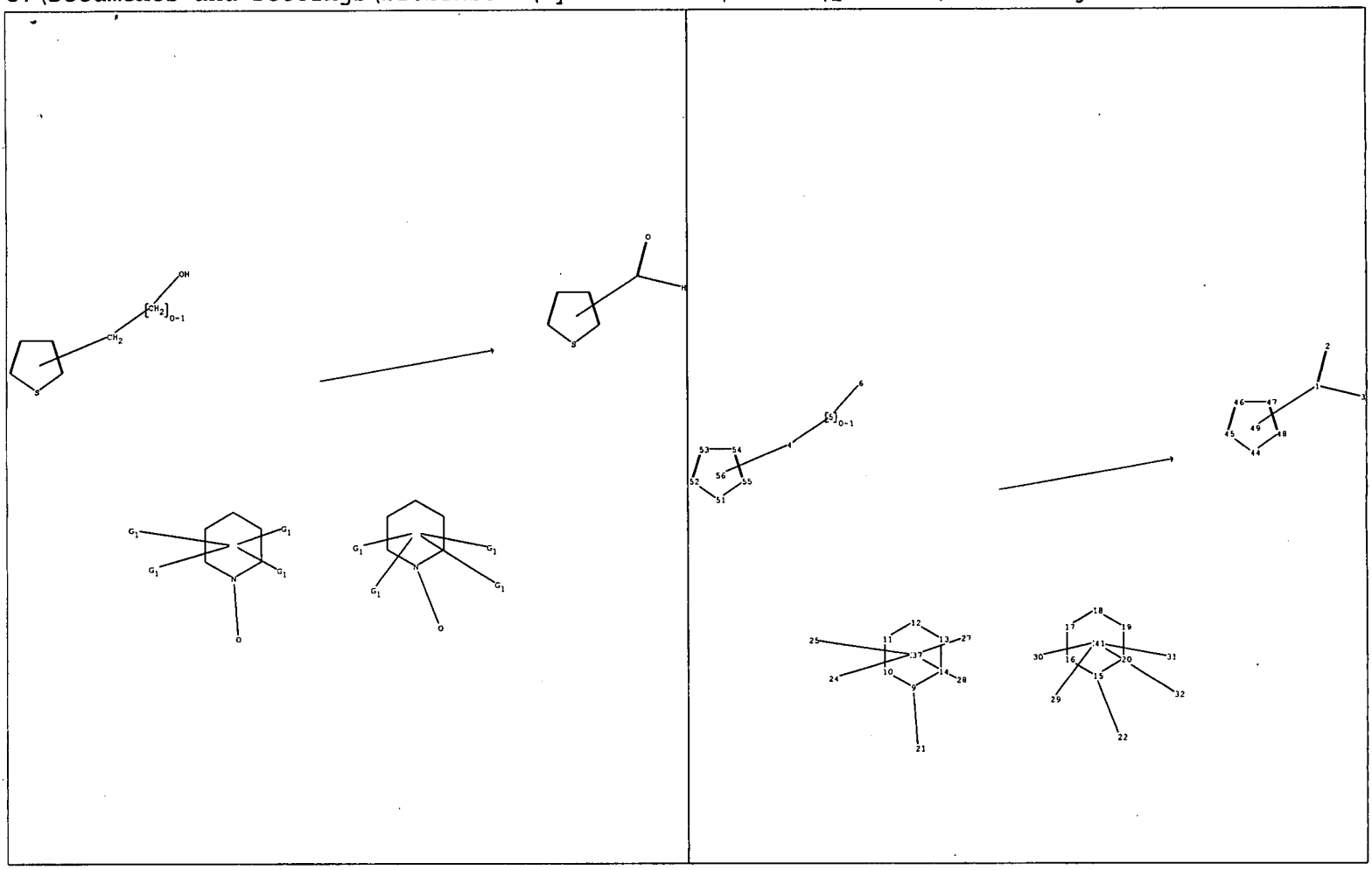

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1-3 1-2 4-5 5-6 9-21 15-22
ring bonds :
9-10 9-14 10-11 11-12 12-13 13-14 15-16 15-20 16-17 17-18 18-19 19-20 44-45
44-48 45-46 46-47 47-48 51-52 51-55 52-53 53-54 54-55
exact/norm bonds :
1-2 9-10 9-14 9-21 10-11 11-12 12-13 13-14 15-16 15-20 15-22 16-17 17-18
18-19 19-20
exact bonds :
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isolated ring systems :
containing 44 : 51 :

G1:CH3,Et

Match level :
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34:Atom 35:Atom 36:Atom 37:Atom 38:Atom 39:Atom 40:Atom 41:Atom 44:Atom 45:Atom
46:Atom 47:Atom 48:Atom 49:CLASS 51:Atom 52:Atom 53:Atom 54:Atom 55:Atom
56:CLASS
fragments assigned reactant role:

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    containing 4
fragments assigned reagent role:
    containing 9
    containing 15
fragments assigned product role:
    containing 1
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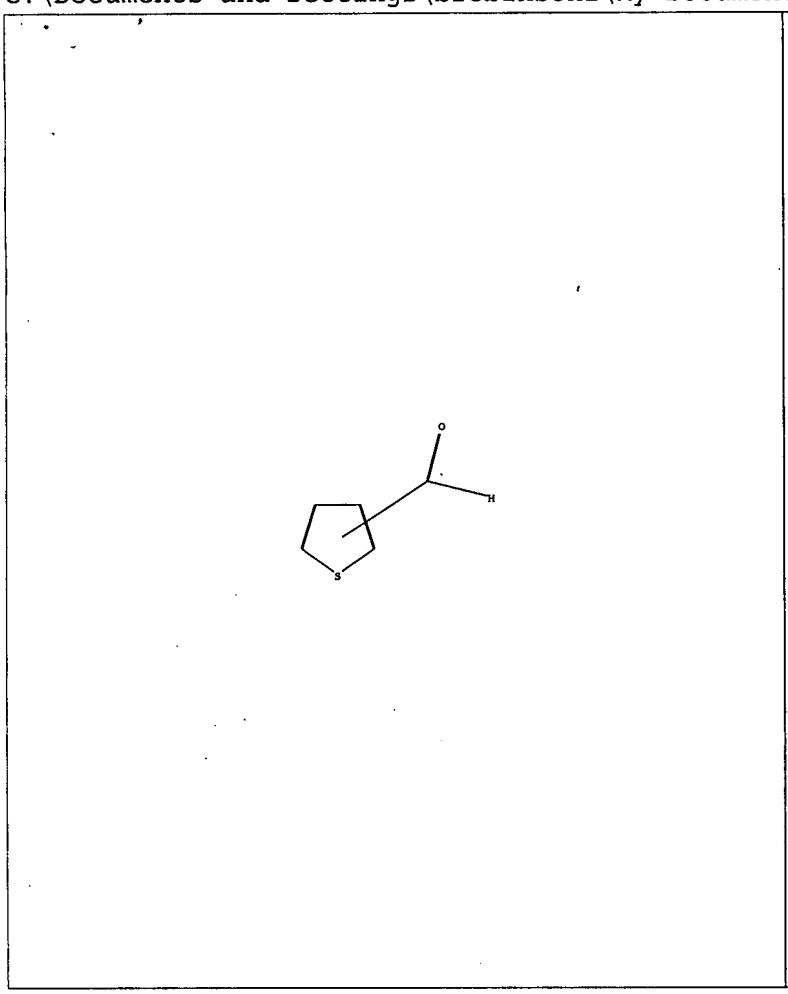
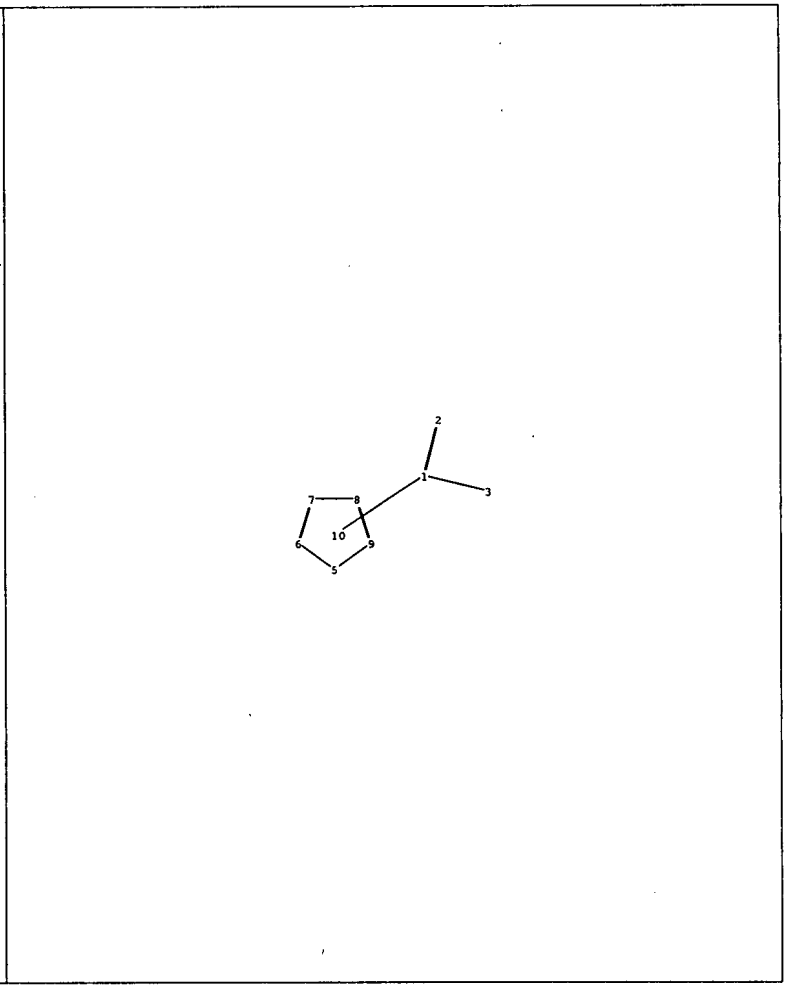
C:\Documents and Settings\brobinson1\My Documents\stnweb\Queries\adsfsdjnh.str



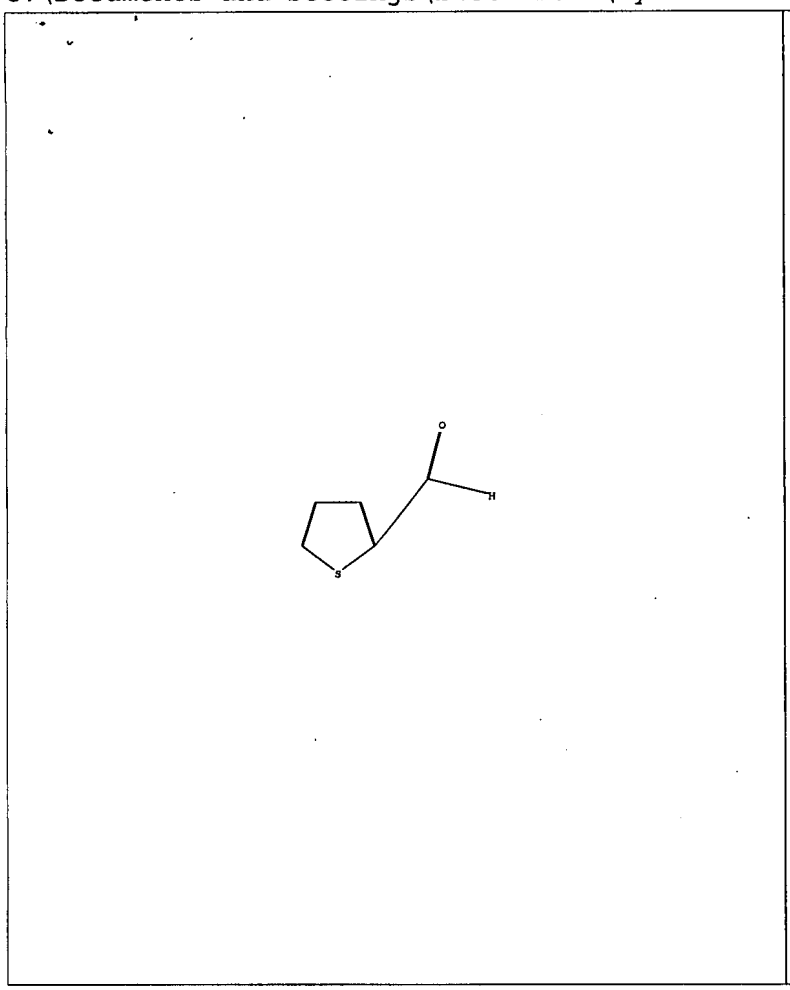


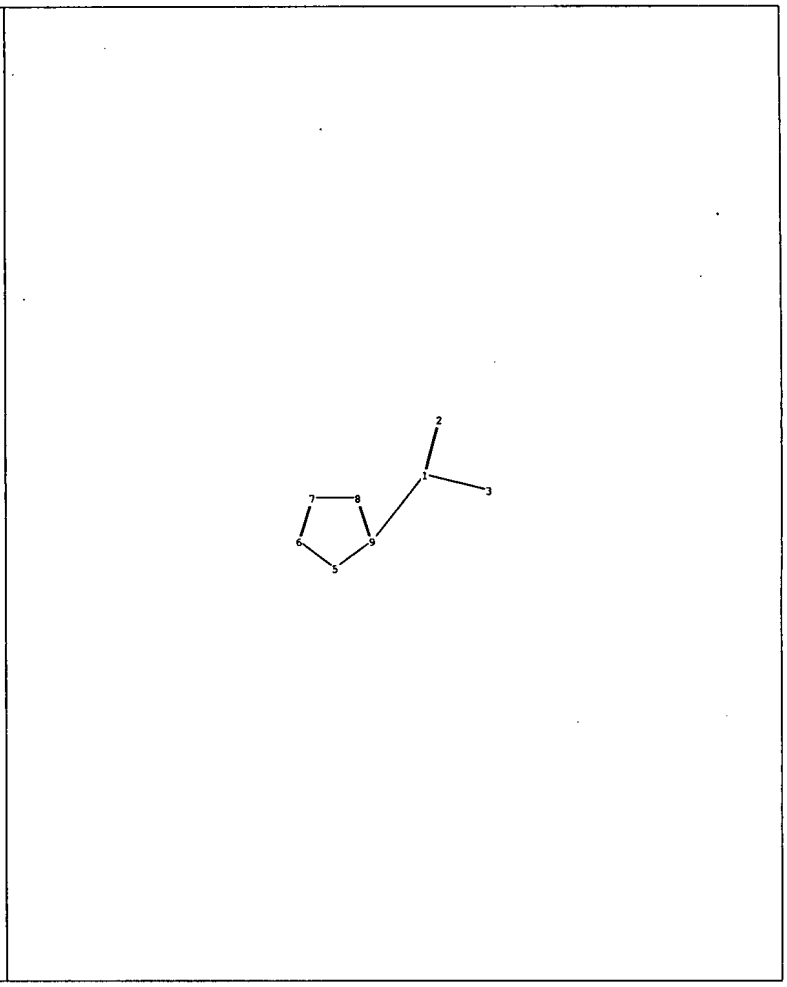
chain nodes :
    1 2 3
ring nodes :
    5 6 7 8 9
chain bonds :
    1-3 1-2
ring bonds :
    5-6 5-9 6-7 7-8 8-9
exact/norm bonds :
    1-2
exact bonds :
    1-3 5-6 5-9 6-7 7-8 8-9
isolated ring systems :
    containing 5 :

G1:CH3,Et

Match level :
    1:CLASS 2:CLASS 3:CLASS 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS

C:\Documents and Settings\brobinson1\My Documents\stnweb\Queries\awrewarewn.str



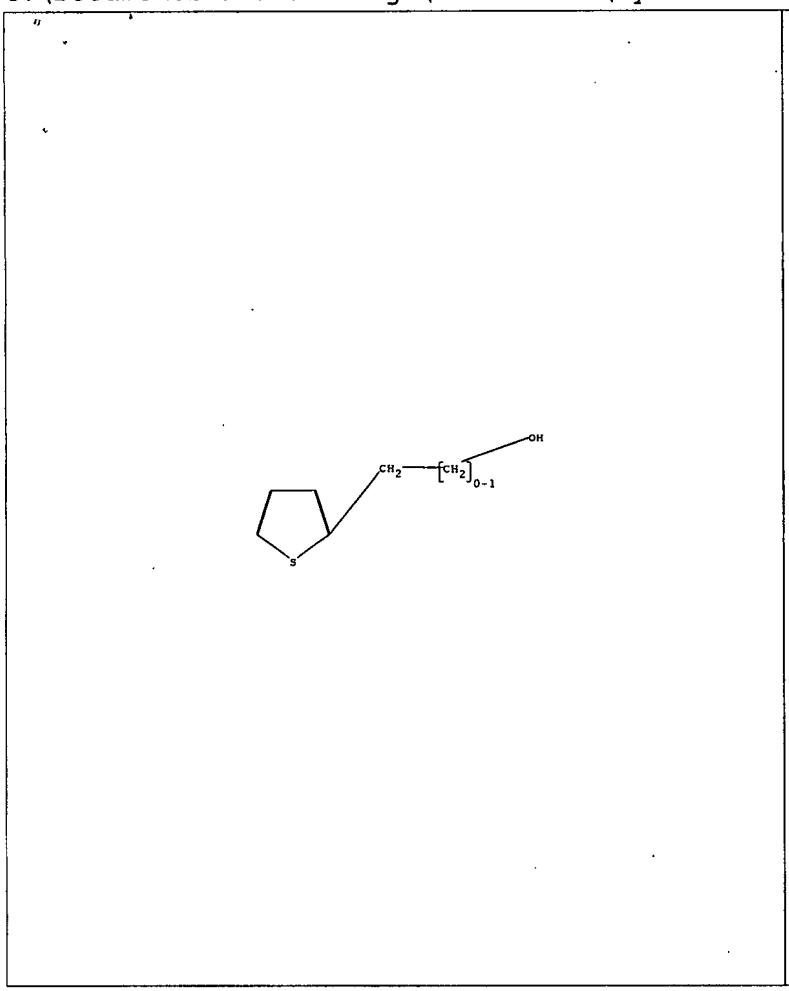


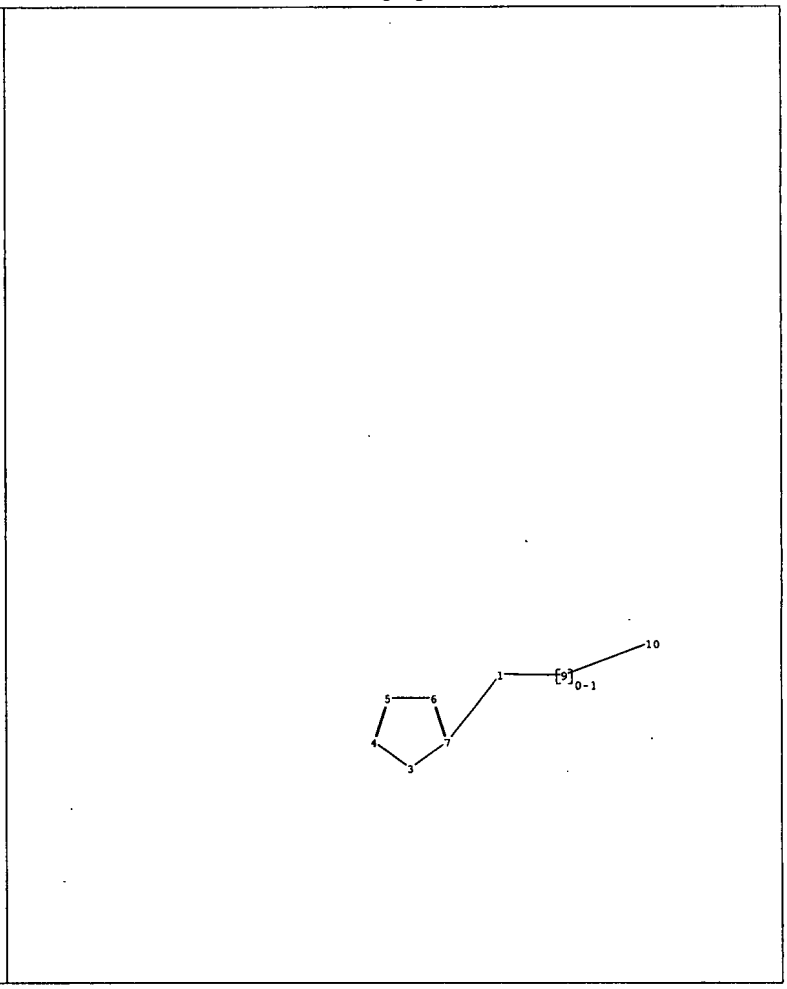
chain nodes :
1 2 3
ring nodes :
5 6 7 8 9
chain bonds :
1-3 1-2 1-9
ring bonds :
5-6 5-9 6-7 7-8 8-9
exact/norm bonds :
1-2
exact bonds :
1-3 1-9 5-6 5-9 6-7 7-8 8-9
isolated ring systems :
containing 5 :

G1:CH3,Et

Match level :
1:CLASS 2:CLASS 3:CLASS 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom

C:\Documents and Settings\brobinson1\My Documents\stnweb\Queries\ansdfjhy.str



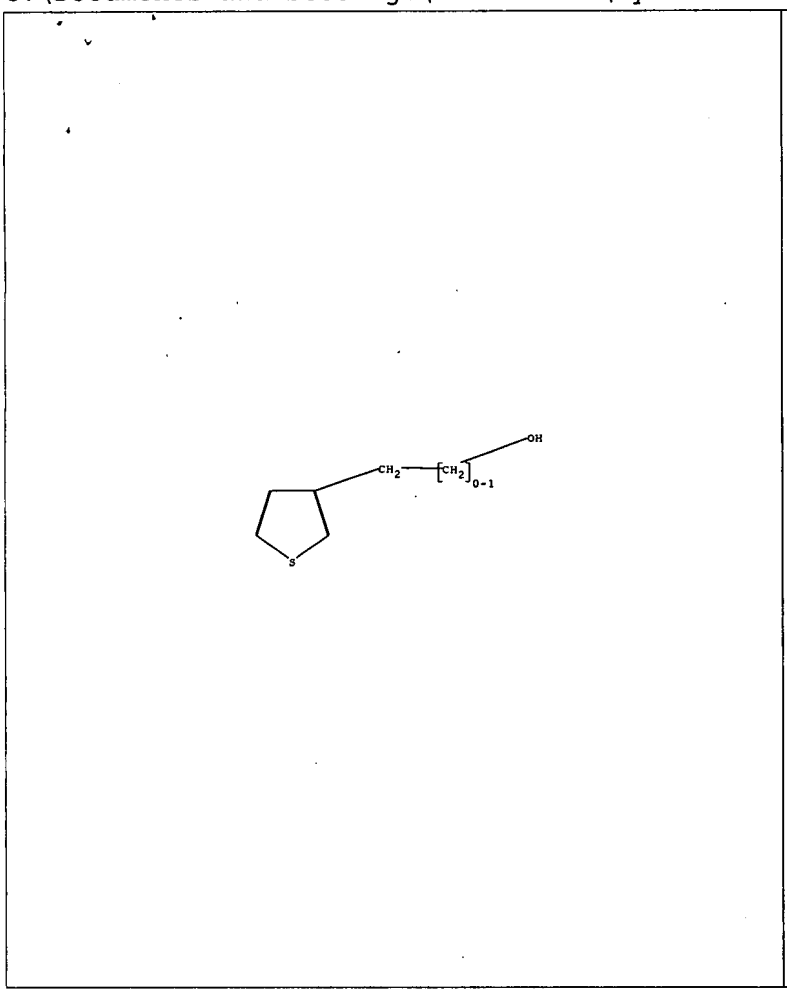


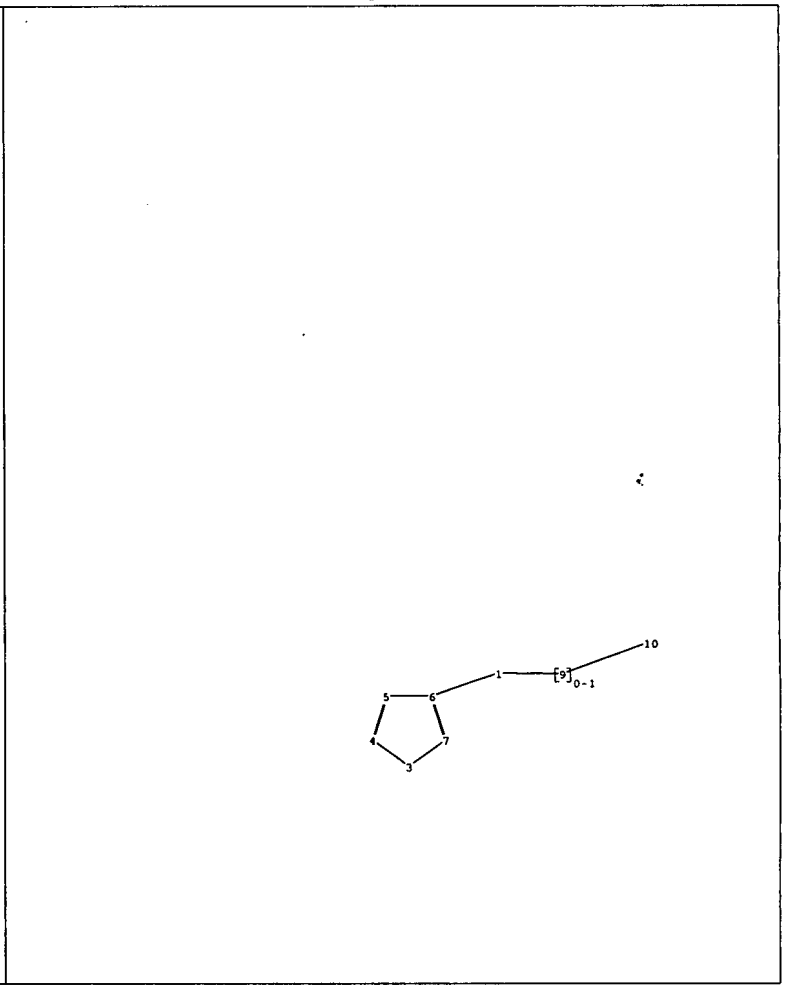
chain nodes :
    1 9 10
ring nodes :
    3 4 5 6 7
chain bonds :
    1-7 1-9 9-10
ring bonds :
    3-4 3-7 4-5 5-6 6-7
exact bonds :
    1-7 1-9 3-4 3-7 4-5 5-6 6-7 9-10
isolated ring systems :
    containing 3 :

G1:CH3,Et

Match level :
    1:CLASS 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 9:CLASS 10:CLASS

C:\Documents and Settings\brobinson1\My Documents\stnweb\Queries\a65tgbv.str



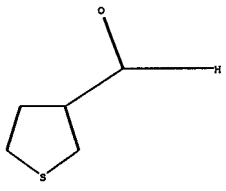


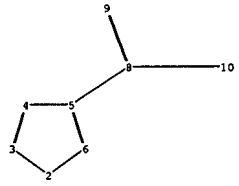
chain nodes :
1 9 10
ring nodes :
3 4 5 6 7
chain bonds :
1-9 1-6 9-10
ring bonds :
3-4 3-7 4-5 5-6 6-7
exact bonds :
1-9 1-6 3-4 3-7 4-5 5-6 6-7 9-10
isolated ring systems :
containing 3 :

G1:CH3,Et

Match level :
1:CLASS 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 9:CLASS 10:CLASS

C:\Documents and Settings\brobinson1\My Documents\stnweb\Queries\awdsfhnjm.str





chain nodes :
8 9 10
ring nodes :
2 3 4 5 6
chain bonds :
5-8 8-9 8-10
ring bonds :
2-3 2-6 3-4 4-5 5-6
exact/norm bonds :
8-9
exact bonds :
2-3 2-6 3-4 4-5 5-6 5-8 8-10
isolated ring systems :
containing 2 :

G1:CH3,Et

Match level :
2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:CLASS 10:CLASS

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1612bxr

PASSWORD:
* * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'REGISTRY' AT 16:20:57 ON 11 OCT 2007
FILE 'REGISTRY' ENTERED AT 16:20:57 ON 11 OCT 2007
COPYRIGHT (C) 2007 American Chemical Society (ACS)

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	7.35	7.56

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	7.35	7.56

FILE 'REGISTRY' ENTERED AT 16:21:06 ON 11 OCT 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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STRUCTURE FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1
DICTIONARY FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

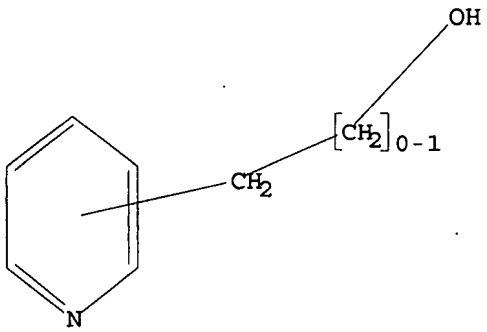
http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\brobinson1\My Documents\stnweb\Queries\a34rg.str

L2 STRUCTURE UPLOADED

=> d l2
L2 HAS NO ANSWERS
L2 STR

Updated Search



Structure attributes must be viewed using STN Express query preparation.

=> s l2
SAMPLE SEARCH INITIATED 16:22:52 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 139214 TO ITERATE

1.4% PROCESSED 2000 ITERATIONS 9 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

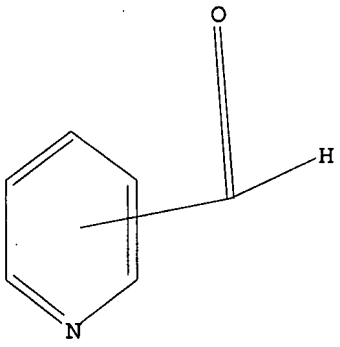
FULL FILE PROJECTIONS: ONLINE **INCOMPLETE**
BATCH **INCOMPLETE**
PROJECTED ITERATIONS: 2762232 TO 2806328
PROJECTED ANSWERS: 11028 TO 14030

L3 9 SEA SSS SAM L2

=>
Uploading C:\Documents and Settings\brobinson1\My Documents\stnweb\Queries\asee32.str

L4 STRUCTURE UPLOADED

=> d l4
L4 HAS NO ANSWERS
L4 STR

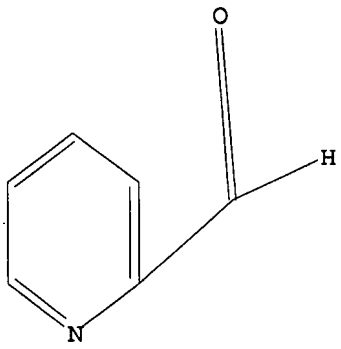


Structure attributes must be viewed using STN Express query preparation.

=> s l4

Updated Search

```
SAMPLE SEARCH INITIATED 16:24:38 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -   139214 TO ITERATE

  1.4% PROCESSED     2000 ITERATIONS                                 4 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **INCOMPLETE**
                        BATCH   **INCOMPLETE**
PROJECTED ITERATIONS:      2762232 TO  2806328
PROJECTED ANSWERS:            4567 TO     6569

L5             4 SEA SSS SAM L4

=>
Uploading C:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\asdferg.str

L6       STRUCTURE UPLOADED

=> d l6
L6 HAS NO ANSWERS
L6                STR
```




```
Structure attributes must be viewed using STN Express query preparation.


=> s l6
SAMPLE SEARCH INITIATED 16:26:37 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -     10545 TO ITERATE

 19.0% PROCESSED     2000 ITERATIONS                                13 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:       204746 TO   217054
PROJECTED ANSWERS:             874 TO     1866

L7            13 SEA SSS SAM L6

=> s l6 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 171.65 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 16:26:43 FILE 'REGISTRY'


Updated Search
```

FULL SCREEN SEARCH COMPLETED - 208017 TO ITERATE

100.0% PROCESSED 208017 ITERATIONS 1553 ANSWERS
SEARCH TIME: 00.00.01

L8 1553 SEA SSS FUL L6

=> file hcaplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	176.15	183.71

FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 11 Oct 2007 VOL 147 ISS 16
FILE LAST UPDATED: 10 Oct 2007 (20071010/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l8/prep
6296 L8
4473482 PREP/RL
L9 1262 L8/PREP
(L8 (L) PREP/RL)

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.60	186.31

FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
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STRUCTURE FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1
DICTIONARY FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1

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TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Updated Search

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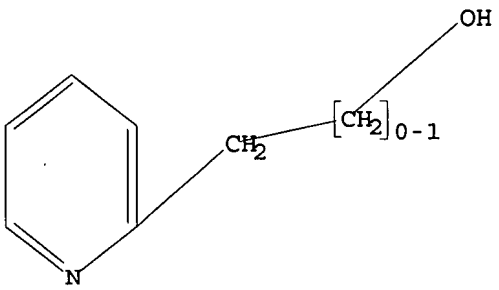
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\brobinson1\My Documents\stnweb\Queries\6yh.str

L10 STRUCTURE UPLOADED

=> d l10
L10 HAS NO ANSWERS
L10 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l10
SAMPLE SEARCH INITIATED 16:28:23 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 6312 TO ITERATE

31.7% PROCESSED 2000 ITERATIONS 50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 121477 TO 131003
PROJECTED ANSWERS: 3187 TO 4891

L11 50 SEA SSS SAM L10

=> s l10 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 171.65 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 16:28:31 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 123569 TO ITERATE

100.0% PROCESSED 123569 ITERATIONS 3368 ANSWERS
SEARCH TIME: 00.00.01

L12 3368 SEA SSS FUL L10

Updated Search

```
=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   173.00     359.31

FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007
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FILE COVERS 1907 - 11 Oct 2007  VOL 147 ISS 16
FILE LAST UPDATED: 10 Oct 2007  (20071010/ED)

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> s l12/rct
          4407 L12
       3023813 RCT/RL
L13       2593 L12/RCT
                (L12 (L) RCT/RL)

=> d his

     (FILE 'HOME' ENTERED AT 16:12:38 ON 11 OCT 2007)

     FILE 'REGISTRY' ENTERED AT 16:13:27 ON 11 OCT 2007
                E UNDECANOL/CN
L1            2 S E3

     FILE 'REGISTRY' ENTERED AT 16:21:06 ON 11 OCT 2007
L2                STRUCTURE UPLOADED
L3            9 S L2
L4                STRUCTURE UPLOADED
L5            4 S L4
L6                STRUCTURE UPLOADED
L7           13 S L6
L8         1553 S L6 FULL

     FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
L9         1262 S L8/PREP

     FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
L10               STRUCTURE UPLOADED
L11           50 S L10
L12         3368 S L10 FULL

     FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007


Updated Search
```

L13 2593 S L12/RCT

=> s l13 and l9
L14 470 L13 AND L9

=> file reg
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 2.60 361.91

FILE 'REGISTRY' ENTERED AT 16:29:01 ON 11 OCT 2007
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STRUCTURE FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1
DICTIONARY FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1

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TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

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experimental property data in the original document. For information
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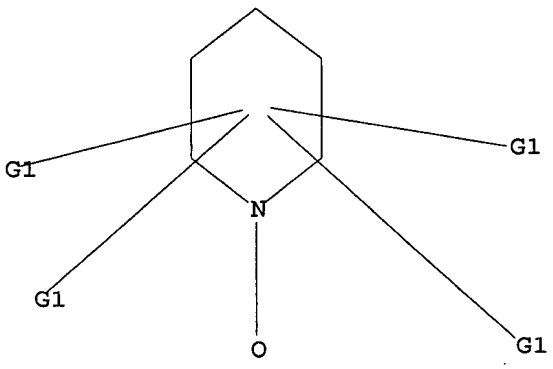
http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading c:\Documents and Settings\brobinson1\My Documents\stnweb\Queries\asdfnm.st

L15 STRUCTURE UPLOADED

=> d l15
L15 HAS NO ANSWERS
L15 STR



G1 Me,Et

Updated Search

Structure attributes must be viewed using STN Express query preparation.

```
=> s l15
SAMPLE SEARCH INITIATED 16:31:04 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -     3705 TO ITERATE

 54.0% PROCESSED     2000 ITERATIONS                                  50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:        70450 TO    77750
PROJECTED ANSWERS:            7765 TO    10315

L16          50 SEA SSS SAM L15

=> s l15 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 171.65 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 16:31:09 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -    74376 TO ITERATE

100.0% PROCESSED    74376 ITERATIONS                                 8707 ANSWERS
SEARCH TIME: 00.00.01

L17        8707 SEA SSS FUL L15

=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   173.45     535.36

FILE 'HCAPLUS' ENTERED AT 16:31:15 ON 11 OCT 2007
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FILE COVERS 1907 - 11 Oct 2007  VOL 147 ISS 16
FILE LAST UPDATED: 10 Oct 2007  (20071010/ED)

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> s l17
L18       10014 L17
```
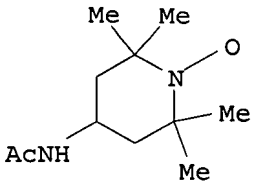

Updated Search

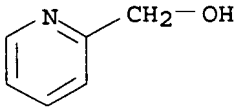
```
=> d his

     (FILE 'HOME' ENTERED AT 16:12:38 ON 11 OCT 2007)

     FILE 'REGISTRY' ENTERED AT 16:13:27 ON 11 OCT 2007
                E UNDECANOL/CN
L1             2 S E3

     FILE 'REGISTRY' ENTERED AT 16:21:06 ON 11 OCT 2007
L2                STRUCTURE UPLOADED
L3             9 S L2
L4                STRUCTURE UPLOADED
L5             4 S L4
L6                STRUCTURE UPLOADED
L7            13 S L6
L8          1553 S L6 FULL

     FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
L9          1262 S L8/PREP

     FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
L10               STRUCTURE UPLOADED
L11           50 S L10
L12         3368 S L10 FULL

     FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007
L13         2593 S L12/RCT
L14          470 S L13 AND L9

     FILE 'REGISTRY' ENTERED AT 16:29:01 ON 11 OCT 2007
L15               STRUCTURE UPLOADED
L16           50 S L15
L17         8707 S L15 FULL

     FILE 'HCAPLUS' ENTERED AT 16:31:15 ON 11 OCT 2007
L18        10014 S L17

=> s l18 and l14
L19            3 L18 AND L14

=> d l19, ibib abs hitstr, 1-3

L19  ANSWER 1 OF 3  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2006:761970  HCAPLUS
DOCUMENT NUMBER:          145:356134
TITLE:                    Cu(II)-Catalyzed Selective Aerobic Oxidation of
                          Alcohols under Mild Conditions
AUTHOR(S):                Jiang, Nan; Ragauskas, Arthur J.
CORPORATE SOURCE:         Department of Chemistry, Georgia Institute of
                          Technology, Atlanta, GA, 30332, USA
SOURCE:                   Journal of Organic Chemistry (2006), 71(18), 7087-7090
                          CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER:                American Chemical Society
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
OTHER SOURCE(S):          CASREACT 145:356134
AB   An efficient four-component system consisting of acetamido-
     TEMPO/Cu(ClO4)2/TMDP/DABCO in DMSO has been developed for room-temperature
     aerobic alc. oxidation  Under the optimal conditions, various alcs. could be
     converted into their corresponding aldehydes or ketones in good to
     excellent yields.  The newly developed catalytic system could also be


Updated Search
```

recycled and reused for three runs without any significant loss of catalytic activity.

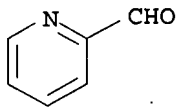
IT 14691-89-5, 4-Acetamido-TEMPO
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehydes or ketones by aerobic alc. oxidation catalyzed by acetamido-TEMPO/Cu(ClO4)2/TMDP/DABCO in DMSO)
RN 14691-89-5 HCAPLUS
CN 1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 586-98-1, 2-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehydes or ketones by aerobic alc. oxidation catalyzed by acetamido-TEMPO/Cu(ClO4)2/TMDP/DABCO in DMSO)
RN 586-98-1 HCAPLUS
CN 2-Pyridinemethanol (CA INDEX NAME)



IT 1121-60-4P, 2-Formylpyridine
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehydes or ketones by aerobic alc. oxidation catalyzed by acetamido-TEMPO/Cu(ClO4)2/TMDP/DABCO in DMSO)
RN 1121-60-4 HCAPLUS
CN 2-Pyridinecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 80 THERE ARE 80 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1148403 HCAPLUS
DOCUMENT NUMBER: 144:51217
TITLE: NaNO2-activated, iron-TEMPO catalyst system for aerobic alcohol oxidation under mild conditions
AUTHOR(S): Wang, Naiwei; Liu, Renhua; Chen, Jiping; Liang, Xinmiao
CORPORATE SOURCE: Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China
SOURCE: Chemical Communications (Cambridge, United Kingdom) (2005), (42), 5322-5324

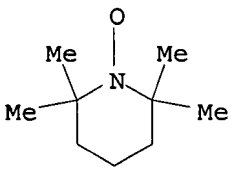
Updated Search

CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 144:51217

AB FeCl3-TEMPO-NaNO2 catalyzes the selective and mild aerobic oxidation of a broad range of alcs. to the corresponding aldehydes and ketones.

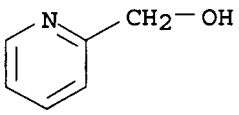
IT 2564-83-2, Tempo
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehydes and ketones via FeCl3-TEMPO-NaNO2 catalyzed selective aerobic oxidation of alcs.)

RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



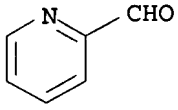
IT 586-98-1, 2-Hydroxymethylpyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehydes and ketones via FeCl3-TEMPO-NaNO2 catalyzed selective aerobic oxidation of alcs.)

RN 586-98-1 HCAPLUS
CN 2-Pyridinemethanol (CA INDEX NAME)



IT 1121-60-4P, 2-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehydes and ketones via FeCl3-TEMPO-NaNO2 catalyzed selective aerobic oxidation of alcs.)

RN 1121-60-4 HCAPLUS
CN 2-Pyridinecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

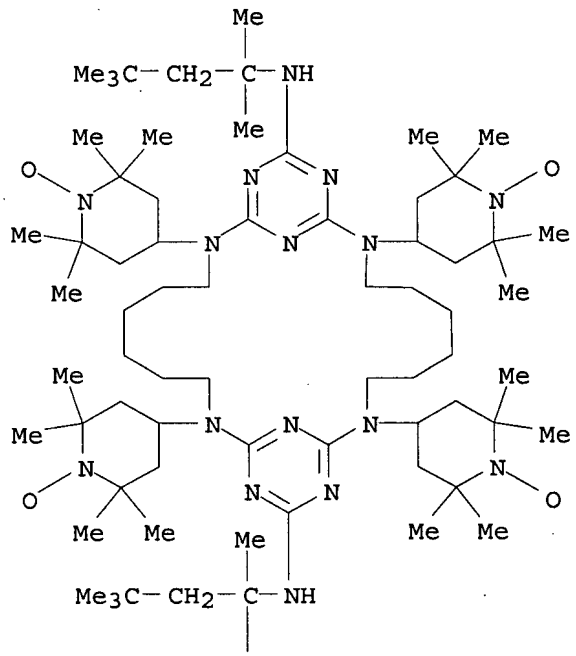
L19 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:664039 HCAPLUS
DOCUMENT NUMBER: 139:323311
TITLE: A Convenient Nitroxyl Radical Catalyst for the Selective Oxidation of Primary and Secondary Alcohols to Aldehydes and Ketones by O2 and H2O2 under Mild Conditions

Updated Search

AUTHOR(S): Minisci, Francesco; Recupero, Francesco; Rodino, Marianna; Sala, Massimiliano; Schneider, Armin
CORPORATE SOURCE: Dipartimento di Chimica, Materiali e Ingegneria Chimica "Giulio Natta", Politecnico di Milano, Milan, 20131, Italy
SOURCE: Organic Process Research & Development (2003), 7(6), 794-798
CODEN: OPRDFK; ISSN: 1083-6160
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:323311
AB A new macrocyclic tetrafunctional nitroxyl radical, [Chimassorb 966 radical (I)], developed by Ciba Specialty Chems., is a particularly effective catalyst in combination with Mn(II) and Co(II) or Cu(II) nitrates for the selective oxidation of primary and secondary alcs. to the corresponding aldehydes and ketones by air or O2 under mild conditions (ambient temperature and pressure) or H2O2. A distinctive feature of I is the possibility of easy recovery and recycles, due to its low solubility, particularly as ammonium salt, in most organic solvents, which makes it especially useful for practical applications. In the absence of I or the manganese nitrate/cobalt nitrate couple no substantial oxidation occurs, suggesting that also with hydrogen peroxide, the actual oxidant of the alc. is an oxoammonium salt, which is continuously regenerated by the combination of hydrogen peroxide and the metal salt catalysts.
IT 613258-32-5
RL: CAT (Catalyst use); USES (Uses)
(Chimassorb 966 radical; nitroxyl radical (Chimassorb 966 radical) catalyst for selective oxidation of primary and secondary alcs. to aldehydes and ketones by oxygen and hydrogen peroxide under mild conditions)
RN 613258-32-5 HCAPLUS
CN 1-Piperidinyloxy, 4,4',4'',4'''-[12,25-bis[(1,1,3,3-tetramethylbutyl)amino]-2,9,11,13,15,22,24,26,27,28-decaazatricyclo[21.3.1.110,14]octacosa-1(27),10,12,14(28),23,25-hexaene-2,9,15,22-tetrayl]tetrakis[2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)

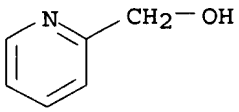
Updated Search

PAGE 1-A



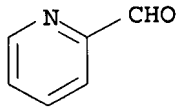
PAGE 2-A

IT 586-98-1, 2-(Hydroxymethyl)pyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(nitroxyl radical (Chimassorb 966 radical) catalyst for selective oxidation of primary and secondary alcs. to aldehydes and ketones by oxygen and hydrogen peroxide under mild conditions)
RN 586-98-1 HCAPLUS
CN 2-Pyridinemethanol (CA INDEX NAME)



IT 1121-60-4P, 2-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(nitroxyl radical (Chimassorb 966 radical) catalyst for selective oxidation of primary and secondary alcs. to aldehydes and ketones by oxygen and hydrogen peroxide under mild conditions)
RN 1121-60-4 HCAPLUS
CN 2-Pyridinecarboxaldehyde (CA INDEX NAME)

Updated Search



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	18.41	553.77

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-2.34	-2.34

FILE 'REGISTRY' ENTERED AT 16:31:58 ON 11 OCT 2007
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STRUCTURE FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1
DICTIONARY FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1

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TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> file caold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.45	554.22

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-2.34

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FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

Updated Search

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

```
=> d his

     (FILE 'HOME' ENTERED AT 16:12:38 ON 11 OCT 2007)

     FILE 'REGISTRY' ENTERED AT 16:13:27 ON 11 OCT 2007
               E UNDECANOL/CN
L1           2 S E3

     FILE 'REGISTRY' ENTERED AT 16:21:06 ON 11 OCT 2007
L2             STRUCTURE UPLOADED
L3           9 S L2
L4             STRUCTURE UPLOADED
L5           4 S L4
L6             STRUCTURE UPLOADED
L7          13 S L6
L8        1553 S L6 FULL

     FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
L9        1262 S L8/PREP

     FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
L10            STRUCTURE UPLOADED
L11          50 S L10
L12        3368 S L10 FULL

     FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007
L13        2593 S L12/RCT
L14         470 S L13 AND L9

     FILE 'REGISTRY' ENTERED AT 16:29:01 ON 11 OCT 2007
L15            STRUCTURE UPLOADED
L16          50 S L15
L17        8707 S L15 FULL

     FILE 'HCAPLUS' ENTERED AT 16:31:15 ON 11 OCT 2007
L18       10014 S L17
L19           3 S L18 AND L14

     FILE 'REGISTRY' ENTERED AT 16:31:58 ON 11 OCT 2007

     FILE 'CAOLD' ENTERED AT 16:32:00 ON 11 OCT 2007

=> s l8 and l12 and l17
            90 L8
           159 L12
            82 L17
L20          0 L8 AND L12 AND L17
```

Updated Search

```
=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                    0.90     555.12

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                    0.00      -2.34

FILE 'REGISTRY' ENTERED AT 16:33:28 ON 11 OCT 2007
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STRUCTURE FILE UPDATES:   10 OCT 2007  HIGHEST RN 950149-06-1
DICTIONARY FILE UPDATES:  10 OCT 2007  HIGHEST RN 950149-06-1

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  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\asdfdasnj.str

L21     STRUCTURE UPLOADED

=> d l21
L21 HAS NO ANSWERS
L21             STR
```

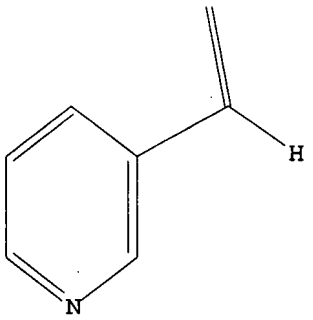


```
Structure attributes must be viewed using STN Express query preparation.

=> s l21


Updated Search
```

```
SAMPLE SEARCH INITIATED 16:35:08 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -    18749 TO ITERATE

 10.7% PROCESSED     2000 ITERATIONS                                  6 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:       366781 TO   383179
PROJECTED ANSWERS:             675 TO     1573

L22           6 SEA SSS SAM L21

=> s l22
SAMPLE SEARCH INITIATED 16:35:23 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -    18749 TO ITERATE

 10.7% PROCESSED     2000 ITERATIONS                                  6 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:       366781 TO   383179
PROJECTED ANSWERS:             675 TO     1573

L23           6 SEA SSS SAM L21

=> s l22 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 171.65 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 16:35:30 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   374947 TO ITERATE

100.0% PROCESSED   374947 ITERATIONS                           1936 ANSWERS
SEARCH TIME: 00.00.02

L24        1936 SEA SSS FUL L21

=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   173.45     728.57

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -2.34

FILE 'HCAPLUS' ENTERED AT 16:35:35 ON 11 OCT 2007
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```


Updated Search

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FILE COVERS 1907 - 11 Oct 2007 VOL 147 ISS 16
FILE LAST UPDATED: 10 Oct 2007 (20071010/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s l24/prep
          5735 L24
       4473482 PREP/RL
L25       1504 L24/PREP
                (L24 (L) PREP/RL)

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     2.60     731.17

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -2.34

FILE 'REGISTRY' ENTERED AT 16:35:41 ON 11 OCT 2007
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STRUCTURE FILE UPDATES:   10 OCT 2007  HIGHEST RN 950149-06-1
DICTIONARY FILE UPDATES:  10 OCT 2007  HIGHEST RN 950149-06-1

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TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

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  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\asdfdaasnj.str

L26      STRUCTURE UPLOADED

=> d l26
L26 HAS NO ANSWERS
L26              STR
```
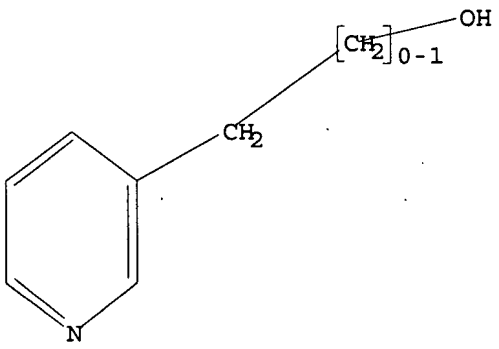

Updated Search



Structure attributes must be viewed using STN Express query preparation.

```
=> s l26
SAMPLE SEARCH INITIATED 16:36:59 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -    19487 TO ITERATE

 10.3% PROCESSED     2000 ITERATIONS                                32 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:       381382 TO   398098
PROJECTED ANSWERS:            5176 TO     7294

L27          32 SEA SSS SAM L26

=> s l26 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 171.65 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 16:37:04 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   390140 TO ITERATE

100.0% PROCESSED   390140 ITERATIONS                            6553 ANSWERS
SEARCH TIME: 00.00.02

L28        6553 SEA SSS FUL L26

=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                   172.55     903.72

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -2.34

FILE 'HCAPLUS' ENTERED AT 16:37:09 ON 11 OCT 2007
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Updated Search

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FILE LAST UPDATED: 10 Oct 2007 (20071010/ED)

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This file contains CAS Registry Numbers for easy and accurate
substance identification.

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=> s l28/rct
         13474 L28
       3023813 RCT/RL
L29        2704 L28/RCT
                (L28 (L) RCT/RL)

=> d his

     (FILE 'HOME' ENTERED AT 16:12:38 ON 11 OCT 2007)

     FILE 'REGISTRY' ENTERED AT 16:13:27 ON 11 OCT 2007
                E UNDECANOL/CN
L1              2 S E3

     FILE 'REGISTRY' ENTERED AT 16:21:06 ON 11 OCT 2007
L2                STRUCTURE UPLOADED
L3              9 S L2
L4                STRUCTURE UPLOADED
L5              4 S L4
L6                STRUCTURE UPLOADED
L7             13 S L6
L8           1553 S L6 FULL

     FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
L9           1262 S L8/PREP

     FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
L10               STRUCTURE UPLOADED
L11            50 S L10
L12          3368 S L10 FULL

     FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007
L13          2593 S L12/RCT
L14           470 S L13 AND L9

     FILE 'REGISTRY' ENTERED AT 16:29:01 ON 11 OCT 2007
L15               STRUCTURE UPLOADED
L16            50 S L15
L17          8707 S L15 FULL

     FILE 'HCAPLUS' ENTERED AT 16:31:15 ON 11 OCT 2007
L18         10014 S L17
L19             3 S L18 AND L14
```

Updated Search

```
     FILE 'REGISTRY' ENTERED AT 16:31:58 ON 11 OCT 2007

     FILE 'CAOLD' ENTERED AT 16:32:00 ON 11 OCT 2007
L20           0 S L8 AND L12 AND L17

     FILE 'REGISTRY' ENTERED AT 16:33:28 ON 11 OCT 2007
L21             STRUCTURE UPLOADED
L22           6 S L21
L23           6 S L22
L24        1936 S L22 FULL

     FILE 'HCAPLUS' ENTERED AT 16:35:35 ON 11 OCT 2007
L25        1504 S L24/PREP

     FILE 'REGISTRY' ENTERED AT 16:35:41 ON 11 OCT 2007
L26             STRUCTURE UPLOADED
L27          32 S L26
L28        6553 S L26 FULL

     FILE 'HCAPLUS' ENTERED AT 16:37:09 ON 11 OCT 2007
L29        2704 S L28/RCT

=> s l29 and l25
L30         451 L29 AND L25

=> s l24 and l30
          5735 L24
L31         451 L24 AND L30

=> s l30 and l17
         10014 L17
L32          16 L30 AND L17

=> s l32 and shiomi, y?/a
SAVED ANSWER SET NAME MAY NOT BE USED IN QUERIES 'Y?/A'
Saved answer sets must be activated before they are used in search
profiles.  This must be done in the same file in which they were
created.  Use the FILE command to change files if necessary, then
enter "ACTIVATE" followed by the saved name (including /A) at an arrow
prompt (=>).  Use the L# assigned to the answer set in your search
profile.

=> s l32 and shiomi, y?/au
           228 SHIOMI, Y?/AU
L33          1 L32 AND SHIOMI, Y?/AU

=> d l33, ibib abs hitstr, 1

L33  ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2003:777759  HCAPLUS
DOCUMENT NUMBER:          139:276804
TITLE:                    Process for producing heterocyclic aldehyde
INVENTOR(S):              Shiomi, Yasuhiro; Uno, Osamu; Ohta, Akio;
                          Sunakami, Takeshi
PATENT ASSIGNEE(S):       Koei Chemical Co., Ltd., Japan
SOURCE:                   PCT Int. Appl., 48 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:


Updated Search
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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003080575	A1	20031002	WO 2003-JP3568	20030325
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003221048	A1	20031008	AU 2003-221048	20030325
GB 2404190	A	20050126	GB 2004-21452	20030325
US 2005124807	A1	20050609	US 2003-509228	20030325
PRIORITY APPLN. INFO.:			JP 2002-86974 A	20020326
			WO 2003-JP3568 W	20030325

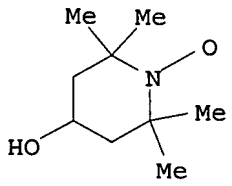
OTHER SOURCE(S): MARPAT 139:276804

AB The patent relates to a process in which a heterocyclic alc. is oxidized to produce a heterocyclic aldehyde with high selectivity in high yield. The process comprises reacting a heterocyclic compound having per mol. at least one hydroxymethyl group bonded to a carbon atom of the heterocycle with a hypohalogenous acid salt in the presence of a base to oxidize the hydroxymethyl group to thereby produce the corresponding heterocyclic aldehyde, wherein the reaction is conducted in the presence of a 2,2,6,6-tetramethylpiperidin-1-oxyl derivative having per mol. two or more 2,2,6,6-tetramethylpiperidin-1-oxyl-4-yl groups. Thus, 3-pyridine-methanol was oxidized by sodium hypochlorite in presence of an oligomer derivative obtained from Chimassorb 944LD with hydrogen peroxide and generated 3-pyridinecarbaldehyde (90.1%) and nicotinic acid (3.4%).

IT 2226-96-2DP, 4-Hydroxy-2,2,6,6-tetramethylpiperidine-N-oxy, reaction product with poly(2-isocyanatoethyl methacrylate)
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(in preparation of heterocyclic aldehyde)

RN 2226-96-2 HCAPLUS

CN 1-Piperidinyloxy, 4-hydroxy-2,2,6,6-tetramethyl- (CA INDEX NAME)

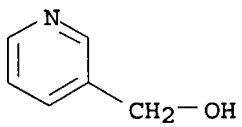


IT 100-55-0, 3-Pyridine-methanol 34107-46-5, 6-Methyl-3-pyridine-methanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of heterocyclic aldehyde)

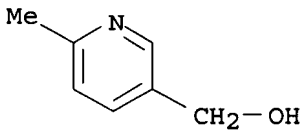
RN 100-55-0 HCAPLUS

CN 3-Pyridinemethanol (CA INDEX NAME)

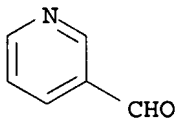
Updated Search



RN 34107-46-5 HCAPLUS
CN 3-Pyridinemethanol, 6-methyl- (CA INDEX NAME)



IT 500-22-1P, 3-Pyridinecarbaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of heterocyclic aldehyde)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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E UNDECANOL/CN
L1 2 S E3

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L3 9 S L2
L4 STRUCTURE UPLOADED
L5 4 S L4
L6 STRUCTURE UPLOADED
L7 13 S L6
L8 1553 S L6 FULL

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L9 1262 S L8/PREP

FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
L10 STRUCTURE UPLOADED
L11 50 S L10
L12 3368 S L10 FULL

FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007

Updated Search

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L13         2593 S L12/RCT
L14          470 S L13 AND L9

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L15               STRUCTURE UPLOADED
L16           50 S L15
L17         8707 S L15 FULL

     FILE 'HCAPLUS' ENTERED AT 16:31:15 ON 11 OCT 2007
L18        10014 S L17
L19            3 S L18 AND L14

     FILE 'REGISTRY' ENTERED AT 16:31:58 ON 11 OCT 2007

     FILE 'CAOLD' ENTERED AT 16:32:00 ON 11 OCT 2007
L20            0 S L8 AND L12 AND L17

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L21               STRUCTURE UPLOADED
L22            6 S L21
L23            6 S L22
L24         1936 S L22 FULL

     FILE 'HCAPLUS' ENTERED AT 16:35:35 ON 11 OCT 2007
L25         1504 S L24/PREP

     FILE 'REGISTRY' ENTERED AT 16:35:41 ON 11 OCT 2007
L26               STRUCTURE UPLOADED
L27           32 S L26
L28         6553 S L26 FULL

     FILE 'HCAPLUS' ENTERED AT 16:37:09 ON 11 OCT 2007
L29         2704 S L28/RCT
L30          451 S L29 AND L25
L31          451 S L24 AND L30
L32           16 S L30 AND L17
L33            1 S L32 AND SHIOMI, Y?/AU

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            37 UNO, O?/AU
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L35            0 L34 NOT L33

=> s l32 not l33
L36           15 L32 NOT L33

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             2 SUNAKAMI, T?/AU
L38            0 L36 AND SUNAKAMI, T?/AU

=> d l36, ibib abs hitstr, 1-15

L36  ANSWER 1 OF 15  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2007:440534  HCAPLUS
DOCUMENT NUMBER:          147:72448


Updated Search
```

TITLE: Efficient NO equivalent for activation of molecular oxygen and its applications in transition-metal-free catalytic aerobic alcohol oxidation

AUTHOR(S): Xie, Yi; Mo, Weimin; Xu, Dong; Shen, Zhenlu; Sun, Nan; Hu, Baoxiang; Hu, Xinquan

CORPORATE SOURCE: College of Chemical Engineering and Material Sciences, Zhejiang University of Technology, Hangzhou, 310014, Peop. Rep. China

SOURCE: Journal of Organic Chemistry (2007), 72(11), 4288-4291
CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

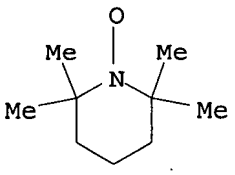
OTHER SOURCE(S): CASREACT 147:72448

AB Tert-Bu nitrite (TBN) was identified as an efficient NO equivalent for the activation of mol. oxygen. The unique property of TBN enabled TEMPO-catalyzed aerobic alc. oxidation to be performed in high-volume efficiency. Up to a 16,000 turnover number was achieved in this transition-metal-free aerobic catalytic system. Under the optimal reaction conditions, various alcs. were converted into their corresponding carbonyl compds. with TEMPO/HBr/TBN as catalyst. The newly developed method was suitable for the oxidation of solid substrate alcs. with high m.p. and/or low solubility under the help of min. solvent to form a slurry.

IT 2564-83-2, TEMPO
RL: CAT (Catalyst use); USES (Uses)
(tert-Bu nitrite as nitric oxide equivalent in aerobic alc. oxidation using tetramethylpiperidyloxy-hydrogen bromide-tert-Bu nitrite catalyst system)

RN 2564-83-2 HCAPLUS

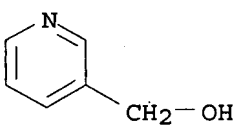
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(tert-Bu nitrite as nitric oxide equivalent in aerobic alc. oxidation using tetramethylpiperidyloxy-hydrogen bromide-tert-Bu nitrite catalyst system)

RN 100-55-0 HCAPLUS

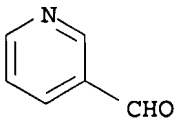
CN 3-Pyridinemethanol (CA INDEX NAME)



IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(tert-Bu nitrite as nitric oxide equivalent in aerobic alc. oxidation using tetramethylpiperidyloxy-hydrogen bromide-tert-Bu nitrite catalyst system)

Updated Search

RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



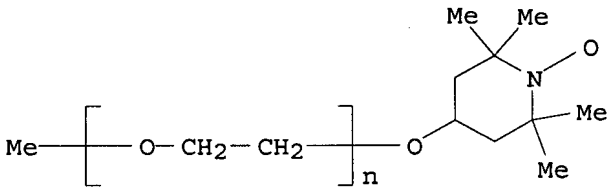
REFERENCE COUNT: 68 THERE ARE 68 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1187826 HCAPLUS
DOCUMENT NUMBER: 146:121623
TITLE: Multipolymer reaction system for selective aerobic alcohol oxidation: simultaneous use of multiple different polymer-supported ligands
AUTHOR(S): Chung, Cecilia Wan Ying; Toy, Patrick H.
CORPORATE SOURCE: Department of Chemistry, The University of Hong Kong, Hong Kong, Peop. Rep. China
SOURCE: Journal of Combinatorial Chemistry (2007), 9(1), 115-120
CODEN: JCCHFF; ISSN: 1520-4766
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A multipolymer reaction system has been developed in which a water-soluble polymer-supported 2,2'-bipyridine group and a similarly immobilized TEMPO derivative are used as ligands for copper to effect the mild and selective aerobic oxidation of primary alcs. in acetonitrile-water solvent. In this reaction system, poly(ethylene glycol) monomethyl ether (mol. weight = 5000 Da) was used as the support for both the 2,2'-bipyridine and TEMPO moieties because of its solubility properties. The use of these functionalized polymers simultaneously in catalytic quantities allows for primary alcs. to be oxidized selectively to the corresponding aldehydes in an environmentally friendly manner. This is the first reported example of using two different polymer-supported ligands together to form an organometallic species capable of catalyzing an organic reaction.

IT 848328-35-8P, 4-Hydroxy-TEMPO
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(aerobic oxidation of alcs. to aldehydes using copper-polymer-supported bipyridine and polymer-supported TEMPO catalyst)

RN 848328-35-8 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[(2,2,6,6-tetramethyl-1-oxy-4-piperidinyl)oxy]- (9CI) (CA INDEX NAME)

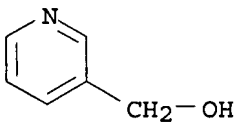


IT 100-55-0, 3-Pyridinemethanol 2226-96-2, 4-Hydroxy-TEMPO
RL: RCT (Reactant); RACT (Reactant or reagent)

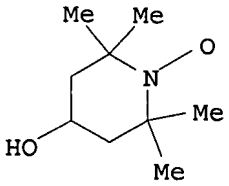
Updated Search

(aerobic oxidation of alcs. to aldehydes using copper-polymer-supported bipyridine and polymer-supported TEMPO catalyst)

RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)

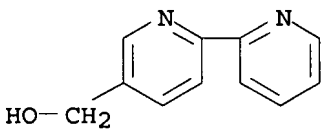


RN 2226-96-2 HCAPLUS
CN 1-Piperidinyloxy, 4-hydroxy-2,2,6,6-tetramethyl- (CA INDEX NAME)



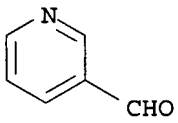
IT 146581-87-5P, 2,2'-Bipyridine-5-methanol
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(aerobic oxidation of alcs. to aldehydes using copper-polymer-supported bipyridine and polymer-supported TEMPO catalyst)

RN 146581-87-5 HCAPLUS
CN [2,2'-Bipyridine]-5-methanol (9CI) (CA INDEX NAME)



IT 500-22-1P, Nicotinaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(aerobic oxidation of alcs. to aldehydes using copper-polymer-supported bipyridine and polymer-supported TEMPO catalyst)

RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 93 THERE ARE 93 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:669406 HCAPLUS

Updated Search

DOCUMENT NUMBER: 145:166657
TITLE: Process for preparation of aldehydes and ketones from alcohols by oxidation with air
INVENTOR(S): Liu, Renhua; Hu, Xinquan; Dong, Chunyan; Liang, Xinmiao
PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

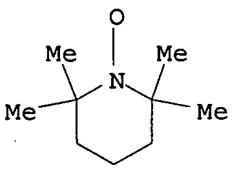
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1796349	A	20060705	CN 2004-10101893	20041230
PRIORITY APPLN. INFO.:			CN 2004-10101893	20041230

OTHER SOURCE(S): CASREACT 145:166657

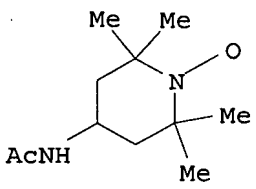
AB The method comprises oxidizing alc. with air in the presence of 0.2 mol% TEMPO free radical or its derivative, 4-10 mol% active bromine (1,3-dibromo-5,5-dimethylhydantoin, N-bromosuccinimide, or pyridinium tribromide) and 4-10 mol% nitrite (sodium nitrite or potassium nitrite) in 1-5 mL water and 100 mL dichloromethane at 100°C and 0.4-0.9 Mpa for 1-10 h. The alc. can be benzyl alc., 4-methylbenzyl alc., 3-methylbenzyl alc., 2-methylbenzyl alc., 4-chlorobenzyl alc., 3-chlorobenzyl alc., 2-chlorobenzyl alc., α-methylbenzyl alc., 3-pyridinemethanol, 2-thiophenemethanol, cyclohexanol, octanol, or menthol.

IT 2564-83-2, 2,2,6,6-Tetramethylpiperidine N-oxy 14691-89-5 54052-87-8
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehydes and ketones from alcs. by oxidation with air)

RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

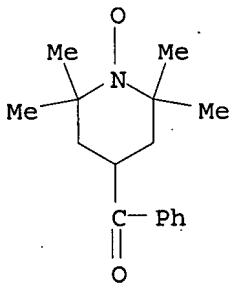


RN 14691-89-5 HCAPLUS
CN 1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl- (CA INDEX NAME)

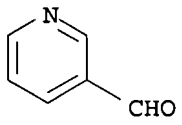


RN 54052-87-8 HCAPLUS
CN 1-Piperidinyloxy, 4-benzoyl-2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)

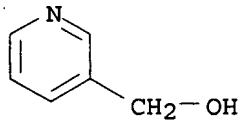
Updated Search



IT 500-22-1P, 3-Pyridylaldehyde
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehydes and ketones from alcs. by oxidation with air)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehydes and ketones from alcs. by oxidation with air)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)

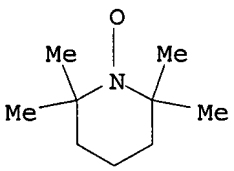


L36 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:624725 HCAPLUS
DOCUMENT NUMBER: 145:124320
TITLE: Process for preparation of aromatic aldehydes and ketones by catalytic oxidation in aqueous solution
INVENTOR(S): Hu, Xinquan; Liu, Renhua; Dong, Chunyan; Liang, Xinmiao
PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 10 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

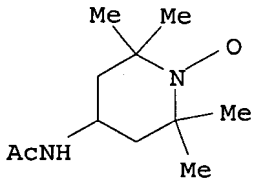
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1789225	A	20060621	CN 2004-10098936	20041216

Updated Search

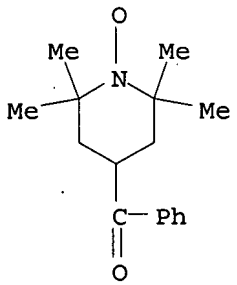
PRIORITY APPLN. INFO.: CN 2004-10098936 20041216
OTHER SOURCE(S): CASREACT 145:124320
AB The invention pertains to a method for catalytically oxidizing arylmethanol to aryl aldehyde or ketone by air at 40-120 °C for 1.5-16 h at 0.1-1.2 MPa, in which 2,2,6,6-tetramethylpiperidinyl-1-oxy (TEMPO) or its derivs., nitrites e.g. sodium nitrite or potassium nitrite, and active bromide to produce hypobromous acid in situ e.g. 1,3-dibromo-5,5-dimethyl-hydantoin, N-bromosuccinimide, pyridinium tribromide etc. at a molar ratio of 1:2-4:4 are used as catalysts. The molar ratio of TEMPO or its derivative and arylmethanol is about 1:100.
IT 2564-83-2, 2,2,6,6-Tetramethylpiperidinyl-1-oxy 14691-89-5 , 4-(Acetylamino)-2,2,6,6-tetramethylpiperidinyl-1-oxy 54052-87-8 , 4-Benzoyl-2,2,6,6-tetramethylpiperidinyl-1-oxy
RL: CAT (Catalyst use); USES (Uses)
(preparation of aromatic aldehydes and ketones by catalytic oxidation in aqueous solution)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



RN 14691-89-5 HCAPLUS
CN 1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl- (CA INDEX NAME)



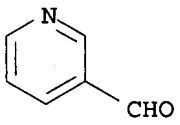
RN 54052-87-8 HCAPLUS
CN 1-Piperidinyloxy, 4-benzoyl-2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)



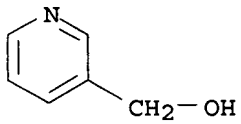
IT 500-22-1P, 3-Pyridylaldehyde
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

Updated Search

(preparation of aromatic aldehydes and ketones by catalytic oxidation in aqueous
solution)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



IT 100-55-0, 3-Pyridylmethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aromatic aldehydes and ketones by catalytic oxidation in aqueous
solution)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



L36 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:284083 HCAPLUS
DOCUMENT NUMBER: 145:7498
TITLE: Catalyst system and method for preparation of aldehyde and ketone from alcohol
INVENTOR(S): Liu, Renhua; Hu, Xinquan; Dong, Chunyan; Liang, Xinmiao
PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 12 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1651381	A	20050810	CN 2004-10003791	20040205

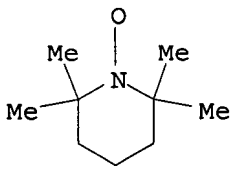
PRIORITY APPLN. INFO.: CN 2004-10003791 20040205
OTHER SOURCE(S): CASREACT 145:7498
AB This invention pertains to catalyst system for preparing aldehyde and ketone from alc., and the catalyst system comprises oxidizing agent and catalyst of 2,2,6,6-tetramethyl-1-piperidinyloxy, halogen, and nitrite. The 2,2,6,6-tetra-Me piperidine-oxo free radical is 4-benzoyl-2,2,6,6-tetramethylpiperidinyloxy, or 4-acetylamino-2,2,6,6-tetramethylpiperidinyloxy. The method for preparing aldehyde and ketone from alc. comprises mixing alc. and catalyst system and reacting at 40-120°C and 0.1-1.0MPa for 0.5-8 h. The alc. is primary alc. of substituted benzyl alc., fatty primary alc. and/or N, S heteroaryl substituted methanol; secondary alc. of aryl substituted secondary alc.,

Updated Search

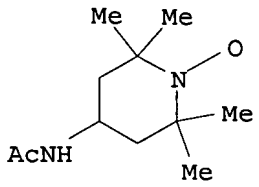
fatty secondary alc. or/and alicyclic alc.

IT 2564-83-2, Tempo 14691-89-5 54052-87-8
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehyde and ketone by oxidation of alc. in presence of TEMPO,
nitrite, and halogen)

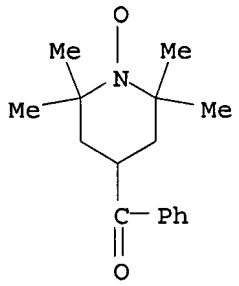
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



RN 14691-89-5 HCAPLUS
CN 1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl- (CA INDEX NAME)

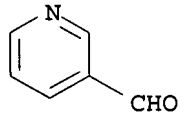


RN 54052-87-8 HCAPLUS
CN 1-Piperidinyloxy, 4-benzoyl-2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)



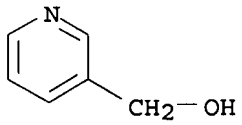
IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehyde and ketone by oxidation of alc. in presence of TEMPO,
nitrite, and halogen)

RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)

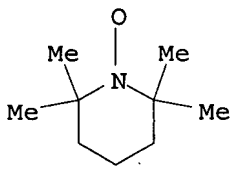


Updated Search

IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehyde and ketone by oxidation of alc. in presence of TEMPO,
nitrite, and halogen)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



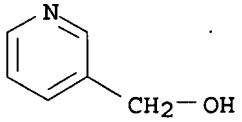
L36 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:1148813 HCAPLUS
DOCUMENT NUMBER: 142:74314
TITLE: Highly Efficient Catalytic Aerobic Oxidations of Benzylic Alcohols in Water
AUTHOR(S): Liu, Renhua; Dong, Chunyan; Liang, Xinmiao; Wang, Xiujuan; Hu, Xinquan
CORPORATE SOURCE: Dalian Institute of Chemical Physics, the Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China
SOURCE: Journal of Organic Chemistry (2005), 70(2), 729-731
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:74314
AB A highly efficient catalytic system without transition metals in water has been developed for aerobic oxidns. of benzylic alcs. The newly developed catalyst system oxidized benzylic alcs. and heteroarom. analogs with 1 mol % TEMPO as a catalyst and with a catalytic amount of 1,3-dibromo-5,5-dimethylhydantoin and NaNO2 as cocatalysts. Under the optimal conditions, various alcs. were converted into their corresponding aldehydes or ketones in high yields.
IT 2564-83-2, TEMPO
RL: CAT (Catalyst use); USES (Uses)
(preparation of carbonyl compound via catalytic aerobic oxidation of alcs. with
TEMPO in water)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



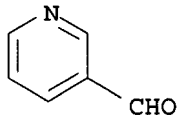
IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of carbonyl compound via catalytic aerobic oxidation of alcs. with
TEMPO in water)

Updated Search

RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



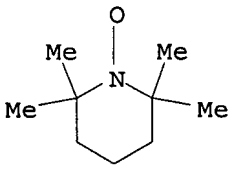
IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of carbonyl compound via catalytic aerobic oxidation of alcs. with
TEMPO in water)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



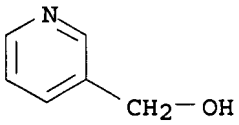
REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:199180 HCAPLUS
DOCUMENT NUMBER: 140:391051
TITLE: Transition-Metal-Free: A Highly Efficient Catalytic Aerobic Alcohol Oxidation Process
AUTHOR(S): Liu, Renhua; Liang, Xinmiao; Dong, Chunyan; Hu, Xinquan
CORPORATE SOURCE: Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China
SOURCE: Journal of the American Chemical Society (2004), 126(13), 4112-4113
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:391051
AB A highly efficient catalytic system without transition metals has been developed for aerobic alc. oxidns. Under the optimal reaction conditions, various alc. substrates were converted into their corresponding carbonyl compds. by air with TEMPO/Br2/NaNO2 as catalyst.
IT 2564-83-2, TEMPO
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehydes and ketones via transition metal free aerobic oxidation of alcs. catalyzed by TEMPO/Br2/NaNO2)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

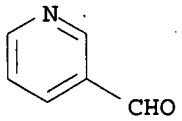
Updated Search



IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehydes and ketones via transition metal free aerobic oxidation of alcs. catalyzed by TEMPO/Br2/NaNO2)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehydes and ketones via transition metal free aerobic oxidation of alcs. catalyzed by TEMPO/Br2/NaNO2)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)

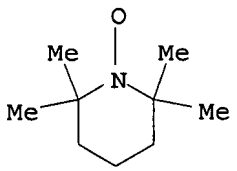


REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

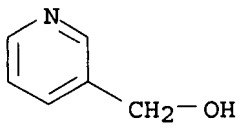
L36 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:13470 HCAPLUS
DOCUMENT NUMBER: 138:204504
TITLE: Iodine as a Chemoselective Reoxidant of TEMPO: Application to the Oxidation of Alcohols to Aldehydes and Ketones
AUTHOR(S): Miller, Ross A.; Hoerrner, R. Scott
CORPORATE SOURCE: Merck Research Laboratories, Rahway, NJ, 07065, USA
SOURCE: Organic Letters (2003), 5(3), 285-287
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:204504
AB Chemoselective alc. oxidns. using catalytic TEMPO and stoichiometric iodine as the terminal oxidant were studied. Iodine was compared to other pos. halogens as the terminal oxidant and shown to be superior in cases of electron-rich and heteroarom. rings. The new conditions were successfully applied to the oxidation of 2-butyl-5-chloro-4-imidazolemethanol to its aldehyde derivative, which is an important intermediate in the synthesis of losartan.

Updated Search

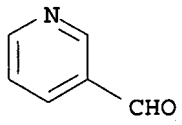
IT 2564-83-2, TEMPO
RL: CAT (Catalyst use); USES (Uses)
(chemoselective oxidation of alcs. to carbonyl compds. using catalytic TEMPO and stoichiometric amts. of iodine)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(chemoselective oxidation of alcs. to carbonyl compds. using catalytic TEMPO and stoichiometric amts. of iodine)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(chemoselective oxidation of alcs. to carbonyl compds. using catalytic TEMPO and stoichiometric amts. of iodine)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:658068 HCAPLUS
DOCUMENT NUMBER: 137:201293
TITLE: Method of synthesizing camptothecin-relating compounds
INVENTOR(S): Ogawa, Takanori; Nishiyama, Hiroyuki; Uchida, Miyuki; Sawada, Seigo
PATENT ASSIGNEE(S): Kabushiki Kaisha Yakult Honsha, Japan
SOURCE: PCT Int. Appl., 89 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

Updated Search

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2002066416	A1	20020829	WO 2002-JP1538		20020221
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
TW 245768	B	20051221	TW 2002-91102967		20020220
CA 2437702	A1	20020829	CA 2002-2437702		20020221
AU 2002237527	A1	20020904	AU 2002-237527		20020221
AU 2002237527	B2	20070104			
EE 200300373	A	20031015	EE 2003-373		20020221
HU 2003002755	A2	20031229	HU 2003-2755		20020221
EP 1378505	A1	20040107	EP 2002-703874		20020221
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR					
CN 1492851	A	20040428	CN 2002-805323		20020221
NZ 527615	A	20041224	NZ 2002-527615		20020221
IN 2003MN00709	A	20050429	IN 2003-MN709		20030718
BG 108031	A	20050430	BG 2003-108031		20030725
ZA 2003006223	A	20040603	ZA 2003-6223		20030812
NO 2003003579	A	20031010	NO 2003-3579		20030813
NZ 534374	A	20041224	NZ 2003-534374		20030814
MX 2003PA07528	A	20031211	MX 2003-PA7528		20030821
US 2004106830	A1	20040603	US 2003-467987		20031218
US 7126000	B2	20061024			
US 2007010674	A1	20070111	US 2006-517621		20060908
IN 2007MN00911	A	20070803	IN 2007-MN911		20070615
PRIORITY APPLN. INFO.:			JP 2001-45430	A	20010221
			JP 2001-309322	A	20011005
			JP 2001-309332	A	20011005
			WO 2002-JP1538	W	20020221
			IN 2003-MN709	A3	20030718
			US 2003-467987	A3	20031218

OTHER SOURCE(S): CASREACT 137:201293; MARPAT 137:201293
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

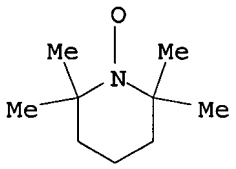
AB 2'-Amino-5'-hydroxypropiophenone (I) corresponding to the AB cycle moiety of the camptothecin (CPT) skeleton and a tricyclic ketone, namely (S)-4-ethyl-7,8-dihydro-4-hydroxy-1H-pyrano[3,4-f]indolizine-3,6,10(4H)-trione (II) corresponding to the CDE cycle moiety thereof can be efficiently produced and thus CPT and its derivs. can be stably supplied by a practically usable total synthesis to more efficiently provide camptothecin (CPT), which is a starting compound for irinotecan hydrochloride, namely 7-ethyl-10-[4-(1-piperidino)-1-piperidino]carbonyloxycamptothecin hydrochloride trihydrate, and various camptothecin derivs. Thus, benzylation of 2-nitro-5-hydroxybenzaldehyde by benzyl chloride in the presence of K2CO3 in DMF at 60° for 20 h gave 94% 5-benzyloxy-2-nitrobenzaldehyde which went addition reaction with vinylmagnesium bromide in THF at 3-10° for 1 h to give 84.0%

Updated Search

1-(5-benzyloxy-2-nitrophenyl)-2-propen-1-ol (VIII). Oxidation of VIII with MnO2 in CHCl3 at 25° for 15 h gave 91% 1-(5-benzyloxy-2-nitrophenyl)-1-oxo-2-propene which was hydrogenated over 10% Pd-C in EtOAc under H atmospheric for 13 h to give 81% I. K2OsO4.2H2O and (DHQD)2PYR were added to an aqueous solution of K3Fe(CN)6, K2CO3, and MeSO2NH2 and stirred at .apprx.5° for 1 h, followed by adding 4-ethyl-8-methoxy-6-(trimethylsilyl)-1H-pyrano[3,4-c]pyridine, and the resulting mixture was stirred at 5° for 20 h, treated with sodium sulfite, and stirred at 5° for 30 min for asym. dihydroxylation to give a diol (III) (95%) which was oxidized by iodine and K2CO3 in aqueous methanol at 40° for 48 h to give a lactone (IV; R = TMS) (88%). Iodination of IV (R = TMS) by iodine and CF3CO2Ag in CH2Cl2 at room temperature for 16.5 h gave IV (R = iodo) (97%) which underwent carbonylation by CO in the presence of Pd(OAc)2 and K2CO3 in 1-propanol at 60° for 18 to give an ester IV (R = n-PrO2C) (70%). Demethylation of IV (R = n-PrO2C) by treatment with Me3SiCl and NaI in MeCN at room temperature for 3 h gave a keto lactone, namely 4-ethyl-3,4,7,8-tetrahydro-4-hydroxy-3,8-dioxo-1H-pyrano[3,4-c]pyridine-6-carboxylic acid Pr ester (V) (95%) which was cyclocondensed with tert-Bu acrylate in the presence of K2CO3 in DMSO at 50° for 20 min to give a tricyclic compound (VI) (77%). VI was heated with a mixture of CF3CO2H and PhMe at 110° for 100 min to give 77% II which was cyclocondensed with I in a 1:1 mixture of AcOH and toluene in the presence of p-toluenesulfonic acid monohydrate at 100° for 18 h to give SN-38 (VII; R1= H). VII (R1= H) was converted into irinotecan hydrochloride, VII.HCl (R1 = Q).

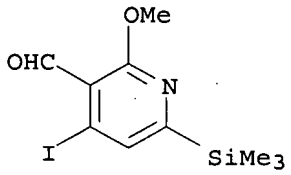
IT 2564-83-2, TEMPO
RL: RGT (Reagent); RACT (Reactant or reagent)
(oxidation by; preparation of camptothecin-relating compds. such as irinotecan
hydrochloride and intermediates thereof)

RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



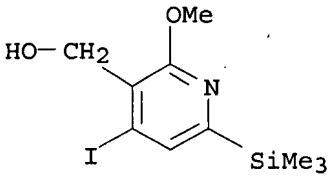
IT 174092-75-2P, 4-Iodo-2-methoxy-6-trimethylsilyl-3-pyridinecarboxaldehyde 375346-05-7P 453518-21-3P, 2-Methoxy-6-trimethylsilyl-3-pyridinecarboxaldehyde
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of camptothecin-relating compds. such as irinotecan hydrochloride and intermediates thereof)

RN 174092-75-2 HCAPLUS
CN 3-Pyridinecarboxaldehyde, 4-iodo-2-methoxy-6-(trimethylsilyl)- (CA INDEX NAME)

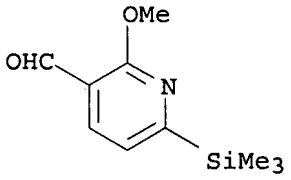


Updated Search

RN 375346-05-7 HCAPLUS
CN 3-Pyridinemethanol, 4-iodo-2-methoxy-6-(trimethylsilyl)- (CA INDEX NAME)

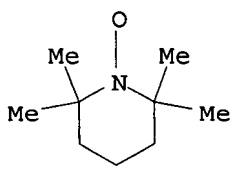


RN 453518-21-3 HCAPLUS
CN 3-Pyridinecarboxaldehyde, 2-methoxy-6-(trimethylsilyl)- (CA INDEX NAME)



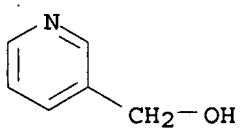
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:269416 HCAPLUS
DOCUMENT NUMBER: 137:5763
TITLE: TEMPO-Catalyzed Aerobic Oxidation of Alcohols to Aldehydes and Ketones in Ionic Liquid [bmim][PF6]
AUTHOR(S): Ansari, Imtiaz A.; Gree, Rene
CORPORATE SOURCE: Laboratoire de Syntheses et Activations de Biomolecules, ENSCR and CNRS UMR 6052, Rennes, 35700, Fr.
SOURCE: Organic Letters (2002), 4(9), 1507-1509
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:5763
AB A simple and mild TEMPO-CuCl catalyzed aerobic oxidation of primary and secondary alcs. to the corresponding aldehydes and ketones in ionic liquid [bmim][PF6] with no trace of overoxidn. to carboxylic acids has been developed. The product can be isolated by a simple extraction with organic solvent, and the ionic liquid can be recycled or reused.
IT 2564-83-2, TEMPO
RL: CAT (Catalyst use); USES (Uses)
(TEMPO-catalyzed aerobic oxidation of alcs. to aldehydes and ketones in ionic liquid [bmim][PF6])
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

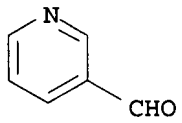


Updated Search

IT 100-55-0, 3-(Hydroxymethyl)pyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(TEMPO-catalyzed aerobic oxidation of alcs. to aldehydes and ketones in ionic liquid [bmim][PF6])
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



IT 500-22-1P, 3-Formylpyridine
RL: SPN (Synthetic preparation); PREP (Preparation)
(TEMPO-catalyzed aerobic oxidation of alcs. to aldehydes and ketones in ionic liquid [bmim][PF6])
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



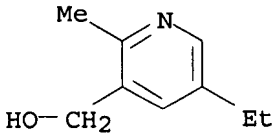
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:83223 HCAPLUS
DOCUMENT NUMBER: 116:83223
TITLE: Manufacture of aldehydes from primary alcohols
INVENTOR(S): Torii, Shigeru; Iguchi, Tsutomu; Matsumoto, Shigeaki; Fukushima, Mitsuhiro
PATENT ASSIGNEE(S): Osaka Yuki Kagaku Kogyo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

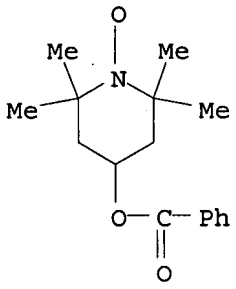
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03184934	A	19910812	JP 1989-322842	19891212

PRIORITY APPLN. INFO.: JP 1989-322842 19891212
OTHER SOURCE(S): CASREACT 116:83223; MARPAT 116:83223
AB Aldehydes are manufactured by treating primary alcs. with R1R2R3R4NBrO2 (R1-4 = C1-20 alkyl or aralkyl) in the presence of N-oxyl compds. Thus, treating 1-undecanol with 4-benzoyloxy-2,2,6,6-tetramethylpiperidine-1-oxyl and tetrabutylammonium bromite in CH2Cl2 at room temperature gave 95% undecanal.
IT 123903-23-1, 5-Ethyl-3-hydroxymethyl-2-methylpyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, with N-oxyl compound and quaternary ammonium bromite)
RN 123903-23-1 HCAPLUS
CN 3-Pyridinemethanol, 5-ethyl-2-methyl- (9CI) (CA INDEX NAME)

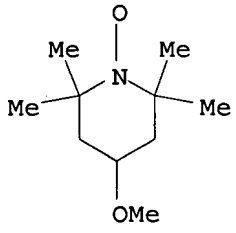
Updated Search



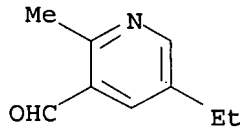
IT 3225-26-1 95407-69-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation with quaternary ammonium bromite and, of primary alcs. to aldehydes)
RN 3225-26-1 HCAPLUS
CN 1-Piperidinyloxy, 4-(benzoyloxy)-2,2,6,6-tetramethyl- (CA INDEX NAME)



RN 95407-69-5 HCAPLUS
CN 1-Piperidinyloxy, 4-methoxy-2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 123903-24-2P, 5-Ethyl-3-formyl-2-methylpyridine
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by oxidation of ethyl(hydroxymethyl)methylpyridine with N-oxyl
compound and quaternary ammonium bromite)
RN 123903-24-2 HCAPLUS
CN 3-Pyridinecarboxaldehyde, 5-ethyl-2-methyl- (9CI) (CA INDEX NAME)



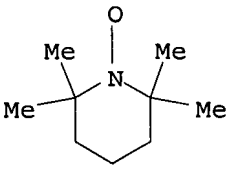
L36 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:20658 HCAPLUS

Updated Search

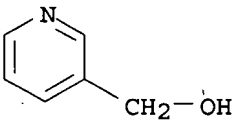
DOCUMENT NUMBER: 116:20658
TITLE: A general synthetic method for the oxidation of primary alcohols to aldehydes: (S)-(+)-2-methylbutanal
AUTHOR(S): Anelli, Pier Lucio; Montanari, Fernando; Quici, Silvio
CORPORATE SOURCE: Dip. Chim. Org. Ind., Univ. Milano, Milan, I-20133, Italy
SOURCE: Organic Syntheses (1990), 69, 212-19
CODEN: ORSYAT; ISSN: 0078-6209
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 116:20658

AB The rapid, inexpensive, selective oxidation of alcs. to aldehydes was achieved by the oxidation of alcs. with sodium hypochlorite in the presence of 2,2,6,6-tetramethylpiperidin-1-oxyl and KBr. The oxidation of (S)-2-methyl-1-butanol with sodium hypochlorite in the presence of 2,2,6,6-tetramethylpiperidin-1-oxyl and KBr gave 82-84% (S)-2-methylbutanal.

IT 2564-83-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidizing agent containing sodium hypochloride and potassium bromide and, for alcs.)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

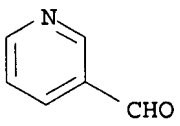


IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, with sodium hypochlorite in presence of tetramethylpiperidinoxyl and potassium bromide)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by oxidation of pyridinemethanol with sodium hypochlorite in presence of tetramethylpiperidinoxyl and potassium bromide)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)

Updated Search



L36 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:513733 HCAPLUS
DOCUMENT NUMBER: 115:113733
TITLE: A new oxidizing system for aromatic alcohols by the combination of N-oxoammonium salt and electrosynthesized tetraalkylammonium tribromide
AUTHOR(S): Inokuchi, Tsutomu; Matsumoto, Sigeaki; Fukushima, Mitsuhiro; Torii, Sigeru
CORPORATE SOURCE: Fac. Eng., Okayama Univ., Okayama, 700, Japan
SOURCE: Bulletin of the Chemical Society of Japan (1991), 64(3), 796-800
CODEN: BCSJA8; ISSN: 0009-2673
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 115:113733
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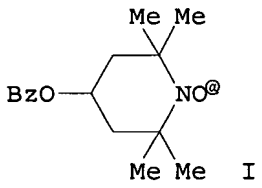
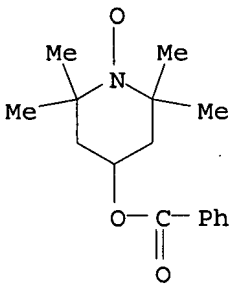


I

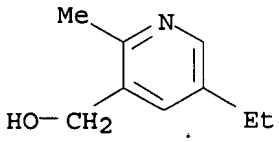
AB A combination of piperidinyloxyl I and tetraalkylammonium tribromides (R4NBr3), which are available from the corresponding tetraalkylammonium bromides via electrooxidn. with KBr, is useful for oxidation of primary and secondary alcs. to aldehydes and ketones, resp. The oxidation proceeds smoothly even with 0.5-1.0 mol % I and 1.5-2.0 equiv of tetraalkylammonium tribromide in an aqueous-organic two-phase solution buffered at pH 8.0-8.6. This recyclable oxidant/cooxidant system may involve formation of N-oxoammonium salts, the actual oxidizing agents of alcs., by the action of hypobromite species generated from R4NBr3 in the binary solution Benzylic alcs. bearing electron-releasing groups on the aromatic nucleus are oxidized to aldehydes or ketones without any bromination and overoxidn.

IT 3225-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation by tetraalkylammonium tribromides and, of alcs.)
RN 3225-26-1 HCAPLUS
CN 1-Piperidinyloxy, 4-(benzoyloxy)-2,2,6,6-tetramethyl- (CA INDEX NAME)

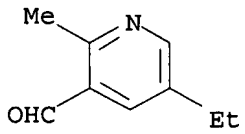
Updated Search



IT 123903-23-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, by piperidinoxyl radical and tetrabutylammonium tribromide)
RN 123903-23-1 HCAPLUS
CN 3-Pyridinemethanol, 5-ethyl-2-methyl- (9CI) (CA INDEX NAME)

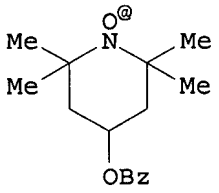


IT 123903-24-2P, 5-Ethyl-2-methyl-3-pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 123903-24-2 HCAPLUS
CN 3-Pyridinecarboxaldehyde, 5-ethyl-2-methyl- (9CI) (CA INDEX NAME)



L36 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:54469 HCAPLUS
DOCUMENT NUMBER: 112:54469
TITLE: A selective and efficient method for alcohol oxidations mediated by N-oxoammonium salts in combination with sodium bromite
AUTHOR(S): Inokuchi, Tsutomu; Matsumoto, Sigeaki; Nishiyama, Tokio; Torii, Sigeru
CORPORATE SOURCE: Fac. Eng., Okayama Univ., Okayama, 700, Japan
SOURCE: Journal of Organic Chemistry (1990), 55(2), 462-6
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 112:54469
GI

Updated Search



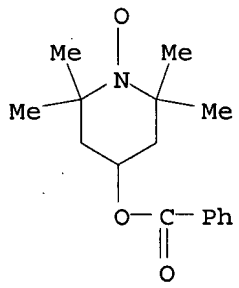
I

AB The oxidation of primary and secondary alcs. leading to aldehydes, carboxylic acids, and ketones has been carried out in N-oxoammonium salt-NaBrO2 systems. Sodium bromite as a stoichiometric oxidizing reagent activates N-oxyl compds. (recycling catalysts, e.g., I) to their N-oxoammonium salts in a weakly basic medium, which oxidize primary hydroxyl groups preferentially (rather than secondary ones) to the corresponding aldehydes. Calcium hypochlorite is used as an alternative terminal oxidant in the same media. The prócedure, applicable to the selective formation of γ- and δ-lactones, β-hydroxy aldehydes, and 2-acetoxy ketones, is advantageous in terms of reagent cost, safety, and ease of operation.

IT 3225-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of alcs. by sodium bromite or calcium hypochlorite in presence of)

RN 3225-26-1 HCAPLUS

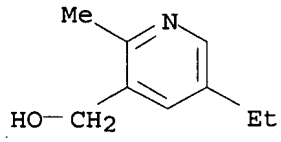
CN 1-Piperidinyloxy, 4-(benzoyloxy)-2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 123903-23-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, with N-oxyl compound and sodium bromite)

RN 123903-23-1 HCAPLUS

CN 3-Pyridinemethanol, 5-ethyl-2-methyl- (9CI) (CA INDEX NAME)

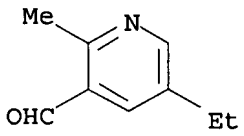


IT 123903-24-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 123903-24-2 HCAPLUS

CN 3-Pyridinecarboxaldehyde, 5-ethyl-2-methyl- (9CI) (CA INDEX NAME)

Updated Search



L36 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:632782 HCAPLUS
DOCUMENT NUMBER: 111:232782
TITLE: Preparation of formylheterocycles via oxidation of (hydroxymethyl)heterocycles with hypohalite in the presence of tetraalkylpyrrolidines and piperidines
INVENTOR(S): Kuekenhoehner, Thomas; Goetz, Norbert; Theobald, Hans; Knaus, Guenter H.
PATENT ASSIGNEE(S): BASF A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 10 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3738909	A1	19890524	DE 1987-3738909	19871117
EP 316783	A1	19890524	EP 1988-118788	19881111
EP 316783	B1	19920318		
R: BE, CH, DE, FR, GB, IT, LI, NL				
CA 1331383	C	19940809	CA 1988-583240	19881116
PRIORITY APPLN. INFO.:			DE 1987-3738909 A	19871117

OTHER SOURCE(S): CASREACT 111:232782; MARPAT 111:232782
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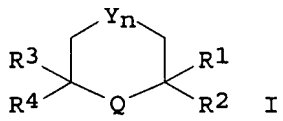


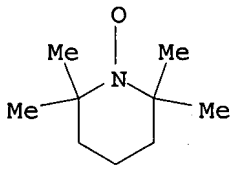
I

AB ArCHO (Ar = mono- or diazafuryl, mono- or diazaphenyl) were prepared by oxidation of the corresponding ArCH2OH precursors with inorg. or organic hypochlorites or hypobromites in the presence of tetraalkylcycloamines I (R1-R4 = C1-4 alkyl; Q = N:O+ X-, NOH, NO; X = anion; Y = O, CO, CR5R6; n = 0,1; R5,R6 = H, OH, organic residue). Thus, 5-hydroxymethyl-3-tert-butylisoxazole, 2,2,6,6-tetramethylpiperidine-1-oxyl, KBr, NaH2PO4·2H2O, Na2HPO4·H2O, CH2Cl2, and H2O were stirred vigorously while 14% aqueous NaOCl was added over 3.5 h to give 77% 5-formyl-3-tert-butylisoxazole.

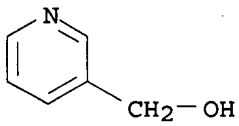
IT 2564-83-2
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for oxidation of hydroxymethyl heterocycles with hypohalite)

RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

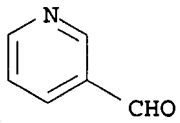
Updated Search



IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, with hypohalite, in the presence of tetraalkylpiperidines)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, via hypohalite oxidation of hydroxymethyl precursor)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



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FULL ESTIMATED COST	99.92	1003.64

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-12.48	-14.82

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FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

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L3 9 S L2
L4 STRUCTURE UPLOADED
L5 4 S L4
L6 STRUCTURE UPLOADED
L7 13 S L6
L8 1553 S L6 FULL

FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
L9 1262 S L8/PREP

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L12 3368 S L10 FULL

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L13 2593 S L12/RCT
L14 470 S L13 AND L9

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L17 8707 S L15 FULL

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L19 3 S L18 AND L14

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L20 0 S L8 AND L12 AND L17

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L23 6 S L22
L24 1936 S L22 FULL

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L25 1504 S L24/PREP

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L26 STRUCTURE UPLOADED
L27 32 S L26

Updated Search

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L34            1 S L32 AND UNO, O?/AU
L35            0 S L34 NOT L33
L36           15 S L32 NOT L33
L37            0 S L36 AND OHTA, A?/AU
L38            0 S L36 AND SUNAKAMI, T?/AU

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Field code qualifications can only be applied to text
terms.

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            82 L17
L39           0 L28 AND L17

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FULL ESTIMATED COST                                 1.35    1004.99

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CA SUBSCRIBER PRICE                                 0.00     -14.82

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DICTIONARY FILE UPDATES:  10 OCT 2007  HIGHEST RN 950149-06-1

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Updated Search

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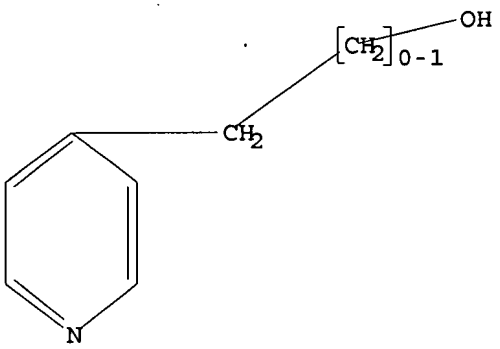

Structure attributes must be viewed using STN Express query preparation.

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SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 483308 TO 502092
PROJECTED ANSWERS: 2011 TO 3407

L41 11 SEA SSS SAM L40

=> s l40 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 171.65 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 16:43:45 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 490479 TO ITERATE

100.0% PROCESSED 490479 ITERATIONS 2565 ANSWERS
SEARCH TIME: 00.00.02

L42 2565 SEA SSS FUL L40

=> file hcaplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	173.00	1177.99

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-14.82

Updated Search

FILE 'HCAPLUS' ENTERED AT 16:43:51 ON 11 OCT 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 11 Oct 2007 VOL 147 ISS 16
FILE LAST UPDATED: 10 Oct 2007 (20071010/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s l42/rct
          9144 L42
       3023813 RCT/RL
L43       1369 L42/RCT
                (L42 (L) RCT/RL)
```

```
=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     2.60    1180.59

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00     -14.82
```

FILE 'REGISTRY' ENTERED AT 16:43:58 ON 11 OCT 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1
DICTIONARY FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

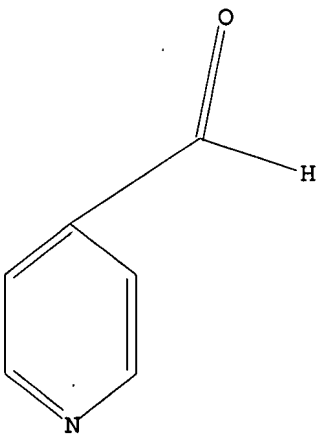
Updated Search

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading c:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\asdfngv.tsr

L44 STRUCTURE UPLOADED

=> d l44
L44 HAS NO ANSWERS
L44 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l44
SAMPLE SEARCH INITIATED 16:45:02 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 33619 TO ITERATE

5.9% PROCESSED 2000 ITERATIONS 7 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 661419 TO 683341
PROJECTED ANSWERS: 1703 TO 3003

L45 7 SEA SSS SAM L44

=> s l44 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 171.65 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 16:45:06 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 667674 TO ITERATE

100.0% PROCESSED 667674 ITERATIONS 1282 ANSWERS
SEARCH TIME: 00.00.02

L46 1282 SEA SSS FUL L44

=> file hcaplus

Updated Search

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	172.55	1353.14

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-14.82

FILE 'HCAPLUS' ENTERED AT 16:45:12 ON 11 OCT 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 11 Oct 2007 VOL 147 ISS 16
FILE LAST UPDATED: 10 Oct 2007 (20071010/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s l46/prep
         11977 L46
       4473482 PREP/RL
L47       1170 L46/PREP
                (L46 (L) PREP/RL)

=> d his

     (FILE 'HOME' ENTERED AT 16:12:38 ON 11 OCT 2007)

     FILE 'REGISTRY' ENTERED AT 16:13:27 ON 11 OCT 2007
                E UNDECANOL/CN
L1             2 S E3

     FILE 'REGISTRY' ENTERED AT 16:21:06 ON 11 OCT 2007
L2               STRUCTURE UPLOADED
L3             9 S L2
L4               STRUCTURE UPLOADED
L5             4 S L4
L6               STRUCTURE UPLOADED
L7            13 S L6
L8          1553 S L6 FULL

     FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
L9          1262 S L8/PREP

     FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
L10              STRUCTURE UPLOADED
L11           50 S L10
```

Updated Search

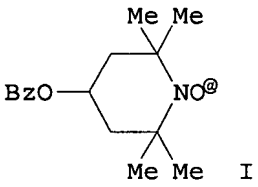
```
L12         3368 S L10 FULL

     FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007
L13         2593 S L12/RCT
L14          470 S L13 AND L9

     FILE 'REGISTRY' ENTERED AT 16:29:01 ON 11 OCT 2007
L15               STRUCTURE UPLOADED
L16           50 S L15
L17         8707 S L15 FULL

     FILE 'HCAPLUS' ENTERED AT 16:31:15 ON 11 OCT 2007
L18        10014 S L17
L19            3 S L18 AND L14

     FILE 'REGISTRY' ENTERED AT 16:31:58 ON 11 OCT 2007

     FILE 'CAOLD' ENTERED AT 16:32:00 ON 11 OCT 2007
L20            0 S L8 AND L12 AND L17

     FILE 'REGISTRY' ENTERED AT 16:33:28 ON 11 OCT 2007
L21               STRUCTURE UPLOADED
L22            6 S L21
L23            6 S L22
L24         1936 S L22 FULL

     FILE 'HCAPLUS' ENTERED AT 16:35:35 ON 11 OCT 2007
L25         1504 S L24/PREP

     FILE 'REGISTRY' ENTERED AT 16:35:41 ON 11 OCT 2007
L26               STRUCTURE UPLOADED
L27           32 S L26
L28         6553 S L26 FULL

     FILE 'HCAPLUS' ENTERED AT 16:37:09 ON 11 OCT 2007
L29         2704 S L28/RCT
L30          451 S L29 AND L25
L31          451 S L24 AND L30
L32           16 S L30 AND L17
L33            1 S L32 AND SHIOMI, Y?/AU
L34            1 S L32 AND UNO, O?/AU
L35            0 S L34 NOT L33
L36           15 S L32 NOT L33
L37            0 S L36 AND OHTA, A?/AU
L38            0 S L36 AND SUNAKAMI, T?/AU

     FILE 'CAOLD' ENTERED AT 16:40:35 ON 11 OCT 2007
L39            0 S L28 AND L17

     FILE 'REGISTRY' ENTERED AT 16:42:21 ON 11 OCT 2007
L40               STRUCTURE UPLOADED
L41           11 S L40
L42         2565 S L40 FULL

     FILE 'HCAPLUS' ENTERED AT 16:43:51 ON 11 OCT 2007
L43         1369 S L42/RCT

     FILE 'REGISTRY' ENTERED AT 16:43:58 ON 11 OCT 2007
L44               STRUCTURE UPLOADED
L45            7 S L44
L46         1282 S L44 FULL


Updated Search
```

FILE 'HCAPLUS' ENTERED AT 16:45:12 ON 11 OCT 2007
L47 1170 S L46/PREP

=> s l47 and l43 and l17
10014 L17
L48 2 L47 AND L43 AND L17

=> d l48, ibib abs hitstr, 1-2

L48 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:513733 HCAPLUS
DOCUMENT NUMBER: 115:113733
TITLE: A new oxidizing system for aromatic alcohols by the combination of N-oxoammonium salt and electrosynthesized tetraalkylammonium tribromide
AUTHOR(S): Inokuchi, Tsutomu; Matsumoto, Sigeaki; Fukushima, Mitsuhiro; Torii, Sigeru
CORPORATE SOURCE: Fac. Eng., Okayama Univ., Okayama, 700, Japan
SOURCE: Bulletin of the Chemical Society of Japan (1991), 64(3), 796-800
CODEN: BCSJA8; ISSN: 0009-2673
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 115:113733
GI



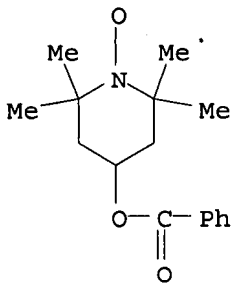
I

AB A combination of piperidinyloxyl I and tetraalkylammonium tribromides (R4NBr3), which are available from the corresponding tetraalkylammonium bromides via electrooxidn. with KBr, is useful for oxidation of primary and secondary alcs. to aldehydes and ketones, resp. The oxidation proceeds smoothly even with 0.5-1.0 mol % I and 1.5-2.0 equiv of tetraalkylammonium tribromide in an aqueous-organic two-phase solution buffered at pH 8.0-8.6. This recyclable oxidant/cooxidant system may involve formation of N-oxoammonium salts, the actual oxidizing agents of alcs., by the action of hypobromite species generated from R4NBr3 in the binary solution Benzylic alcs. bearing electron-releasing groups on the aromatic nucleus are oxidized to aldehydes or ketones without any bromination and overoxidn.

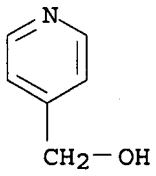
IT 3225-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation by tetraalkylammonium tribromides and, of alcs.)

RN 3225-26-1 HCAPLUS
CN 1-Piperidinyloxy, 4-(benzoyloxy)-2,2,6,6-tetramethyl- (CA INDEX NAME)

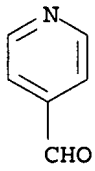
Updated Search



IT 586-95-8, 4-(Hydroxymethyl)pyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, by piperidinoxyl radical and tetrabutylammonium tribromide)
RN 586-95-8 HCAPLUS
CN 4-Pyridinemethanol (CA INDEX NAME)



IT 872-85-5P, 4-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 872-85-5 HCAPLUS
CN 4-Pyridinecarboxaldehyde (CA INDEX NAME)



L48 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:632782 HCAPLUS
DOCUMENT NUMBER: 111:232782
TITLE: Preparation of formylheterocycles via oxidation of (hydroxymethyl)heterocycles with hypohalite in the presence of tetraalkylpyrrolidines and piperidines
INVENTOR(S): Kuekenhoehner, Thomas; Goetz, Norbert; Theobald, Hans; Knaus, Guenter H.
PATENT ASSIGNEE(S): BASF A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 10 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

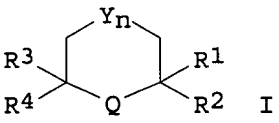
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

Updated Search

DE 3738909	A1	19890524	DE 1987-3738909		19871117
EP 316783	A1	19890524	EP 1988-118788		19881111
EP 316783	B1	19920318			
R: BE, CH, DE, FR, GB, IT, LI, NL					
CA 1331383	C	19940809	CA 1988-583240		19881116
PRIORITY APPLN. INFO.:			DE 1987-3738909	A	19871117

OTHER SOURCE(S): CASREACT 111:232782; MARPAT 111:232782

GI



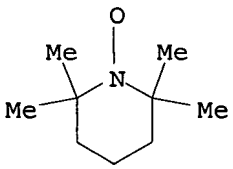
I

AB ArCHO (Ar = mono- or diazafuryl, mono- or diazaphenyl) were prepared by oxidation of the corresponding ArCH2OH precursors with inorg. or organic hypochlorites or hypobromites in the presence of tetraalkylcycloamines I (R1-R4 = C1-4 alkyl; Q = N:O+ X-, NOH, NO; X = anion; Y = O, CO, CR5R6; n = 0,1; R5,R6 = H, OH, organic residue). Thus, 5-hydroxymethyl-3-tert-butylisoxazole, 2,2,6,6-tetramethylpiperidine-1-oxyl, KBr, $NaH_2PO_4 \cdot 2H_2O$, $Na_2HPO_4 \cdot H_2O$, CH_2Cl_2, and H_2O were stirred vigorously while 14% aqueous NaOCl was added over 3.5 h to give 77% 5-formyl-3-tert-butylisoxazole.

IT 2564-83-2
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for oxidation of hydroxymethyl heterocycles with hypohalite)

RN 2564-83-2 HCAPLUS

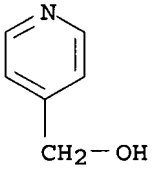
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 586-95-8, 4-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, with hypohalite, in the presence of tetraalkylpiperidines)

RN 586-95-8 HCAPLUS

CN 4-Pyridinemethanol (CA INDEX NAME)

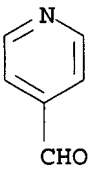


IT 872-85-5P, 4-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, via hypohalite oxidation of hydroxymethyl precursor)

RN 872-85-5 HCAPLUS

CN 4-Pyridinecarboxaldehyde (CA INDEX NAME)

Updated Search




```
=> file caold
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    13.14    1366.28

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                    -1.56     -16.38

FILE 'CAOLD' ENTERED AT 16:45:42 ON 11 OCT 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE COVERS 1907-1966
FILE LAST UPDATED:  01 May 1997 (19970501/UP)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.  Title keywords, authors, patent
  assignees, and patent information, e.g., patent numbers, are
  now searchable from 1907-1966.  TIFF images of CA abstracts
  printed between 1907-1966 are available in the PAGE
  display formats.

  New CAS Information Use Policies, enter HELP USAGETERMS for details.

  This file supports REGistRY for direct browsing and searching of
  all substance data from the REGISTRY file.  Enter HELP FIRST for
  more information.

=> d his

     (FILE 'HOME' ENTERED AT 16:12:38 ON 11 OCT 2007)

     FILE 'REGISTRY' ENTERED AT 16:13:27 ON 11 OCT 2007
                E UNDECANOL/CN
L1            2 S E3

     FILE 'REGISTRY' ENTERED AT 16:21:06 ON 11 OCT 2007
L2              STRUCTURE UPLOADED
L3            9 S L2
L4              STRUCTURE UPLOADED
L5            4 S L4
L6              STRUCTURE UPLOADED
L7           13 S L6
L8         1553 S L6 FULL

     FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
L9         1262 S L8/PREP


Updated Search
```

```
     FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
L10             STRUCTURE UPLOADED
L11           50 S L10
L12         3368 S L10 FULL

     FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007
L13         2593 S L12/RCT
L14          470 S L13 AND L9

     FILE 'REGISTRY' ENTERED AT 16:29:01 ON 11 OCT 2007
L15             STRUCTURE UPLOADED
L16           50 S L15
L17         8707 S L15 FULL

     FILE 'HCAPLUS' ENTERED AT 16:31:15 ON 11 OCT 2007
L18        10014 S L17
L19            3 S L18 AND L14

     FILE 'REGISTRY' ENTERED AT 16:31:58 ON 11 OCT 2007

     FILE 'CAOLD' ENTERED AT 16:32:00 ON 11 OCT 2007
L20            0 S L8 AND L12 AND L17

     FILE 'REGISTRY' ENTERED AT 16:33:28 ON 11 OCT 2007
L21             STRUCTURE UPLOADED
L22            6 S L21
L23            6 S L22
L24         1936 S L22 FULL

     FILE 'HCAPLUS' ENTERED AT 16:35:35 ON 11 OCT 2007
L25         1504 S L24/PREP

     FILE 'REGISTRY' ENTERED AT 16:35:41 ON 11 OCT 2007
L26             STRUCTURE UPLOADED
L27           32 S L26
L28         6553 S L26 FULL

     FILE 'HCAPLUS' ENTERED AT 16:37:09 ON 11 OCT 2007
L29         2704 S L28/RCT
L30          451 S L29 AND L25
L31          451 S L24 AND L30
L32           16 S L30 AND L17
L33            1 S L32 AND SHIOMI, Y?/AU
L34            1 S L32 AND UNO, O?/AU
L35            0 S L34 NOT L33
L36           15 S L32 NOT L33
L37            0 S L36 AND OHTA, A?/AU
L38            0 S L36 AND SUNAKAMI, T?/AU

     FILE 'CAOLD' ENTERED AT 16:40:35 ON 11 OCT 2007
L39            0 S L28 AND L17

     FILE 'REGISTRY' ENTERED AT 16:42:21 ON 11 OCT 2007
L40             STRUCTURE UPLOADED
L41           11 S L40
L42         2565 S L40 FULL

     FILE 'HCAPLUS' ENTERED AT 16:43:51 ON 11 OCT 2007
L43         1369 S L42/RCT
```

Updated Search

```
     FILE 'REGISTRY' ENTERED AT 16:43:58 ON 11 OCT 2007
L44             STRUCTURE UPLOADED
L45           7 S L44
L46        1282 S L44 FULL

     FILE 'HCAPLUS' ENTERED AT 16:45:12 ON 11 OCT 2007
L47        1170 S L46/PREP
L48           2 S L47 AND L43 AND L17

     FILE 'CAOLD' ENTERED AT 16:45:42 ON 11 OCT 2007

=> s l46 and l42 and l17
           101 L46
           239 L42
            82 L17
L49          0 L46 AND L42 AND L17

=> file casreact
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       1.35    1367.63

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                         ENTRY    SESSION
CA SUBSCRIBER PRICE                                       0.00     -16.38

FILE 'CASREACT' ENTERED AT 16:47:37 ON 11 OCT 2007
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held by the publishers listed in the PUBLISHER (PB) field (available
for records published or updated in Chemical Abstracts after December
26, 1996), unless otherwise indicated in the original publications.

FILE CONTENT:1840 - 6 Oct 2007 VOL 147 ISS 16

New CAS Information Use Policies, enter HELP USAGETERMS for details.

*************************************************************
*                                                           *
*     CASREACT now has more than 13.8 million reactions     *
*                                                           *
*************************************************************

Some CASREACT records are derived from the ZIC/VINITI database (1974-1999)
provided by InfoChem, INPI data prior to 1986, and Biotransformations
database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance
identification.

=>
Uploading C:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\anjsdfhutym.str

L50     STRUCTURE UPLOADED

=> d l50
L50 HAS NO ANSWERS
L50             STR


Updated Search
```

```
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY -  AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.


=> s l50
SAMPLE SEARCH INITIATED 16:53:20 FILE 'CASREACT'
SCREENING COMPLETE -       11 REACTIONS TO VERIFY FROM        3 DOCUMENTS

100.0% DONE      11 VERIFIED       0 HIT RXNS                          0 DOCS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED VERIFICATIONS:        22 TO      418
PROJECTED ANSWERS:               0 TO        0

L51            0 SEA SSS SAM L50 (     0 REACTIONS)

=> s l50 full
THE ESTIMATED SEARCH COST FOR FILE 'CASREACT' IS 113.10 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 16:53:25 FILE 'CASREACT'
SCREENING COMPLETE -     1015 REACTIONS TO VERIFY FROM       81 DOCUMENTS

100.0% DONE    1015 VERIFIED       0 HIT RXNS                          0 DOCS
SEARCH TIME: 00.00.01

L52            0 SEA SSS FUL L50 (     0 REACTIONS)

=>
Uploading C:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\asdfdsafdjn.str

L53     STRUCTURE UPLOADED

=> d l53
L53 HAS NO ANSWERS
L53              STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY -  AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.


=> s l53
SAMPLE SEARCH INITIATED 16:56:32 FILE 'CASREACT'
SCREENING COMPLETE -        0 REACTIONS TO VERIFY FROM        0 DOCUMENTS

100.0% DONE       0 VERIFIED       0 HIT RXNS                          0 DOCS
SEARCH TIME: 00.00.03

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED VERIFICATIONS:         0 TO        0
PROJECTED ANSWERS:               0 TO        0

L54            0 SEA SSS SAM L53 (     0 REACTIONS)

=> s l53 full


Updated Search
```

```
THE ESTIMATED SEARCH COST FOR FILE 'CASREACT' IS 113.10 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 16:56:40 FILE 'CASREACT'
SCREENING COMPLETE -       0 REACTIONS TO VERIFY FROM        0 DOCUMENTS

100.0% DONE       0 VERIFIED       0 HIT RXNS                      0 DOCS
SEARCH TIME: 00.00.01

L55           0 SEA SSS FUL L53 (      0 REACTIONS)

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   232.95    1600.58

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00     -16.38

FILE 'REGISTRY' ENTERED AT 16:56:44 ON 11 OCT 2007
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES:   10 OCT 2007  HIGHEST RN 950149-06-1
DICTIONARY FILE UPDATES:  10 OCT 2007  HIGHEST RN 950149-06-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\adsfsdjnh.str

L56     STRUCTURE UPLOADED

=> d l56
L56 HAS NO ANSWERS
L56             STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.


=> s l56
SAMPLE SEARCH INITIATED 16:58:25 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -    58198 TO ITERATE


Updated Search
```

```
  3.4% PROCESSED     2000 ITERATIONS                                  7 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **INCOMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:      1149577 TO  1178343
PROJECTED ANSWERS:            3217 TO     4929

L57           7 SEA SSS SAM L56

=>
Uploading C:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\awrewarewn.str

L58      STRUCTURE UPLOADED

=> d l58
L58 HAS NO ANSWERS
L58              STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.


=> s l58
SAMPLE SEARCH INITIATED 16:59:15 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -    13073 TO ITERATE

 15.3% PROCESSED     2000 ITERATIONS                                 25 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:       254610 TO   268310
PROJECTED ANSWERS:            2502 TO     4034

L59          25 SEA SSS SAM L58

=> s l58 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 171.65 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 16:59:21 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   262612 TO ITERATE

100.0% PROCESSED   262612 ITERATIONS                             3417 ANSWERS
SEARCH TIME: 00.00.02

L60        3417 SEA SSS FUL L58

=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   173.90    1774.48

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00     -16.38



Updated Search
```

FILE 'HCAPLUS' ENTERED AT 16:59:27 ON 11 OCT 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 11 Oct 2007 VOL 147 ISS 16
FILE LAST UPDATED: 10 Oct 2007 (20071010/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

```
=> s l60/prep
          8176 L60
       4473482 PREP/RL
L61       2159 L60/PREP
                (L60 (L) PREP/RL)

=> s l61 and l17
         10014 L17
L62         11 L61 AND L17

=> file reg
```

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.60	1777.08

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-16.38

FILE 'REGISTRY' ENTERED AT 16:59:46 ON 11 OCT 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1
DICTIONARY FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Updated Search

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\brobinson1\My Documents\stnweb\Queries\ansdfjhy.str

L63 STRUCTURE UPLOADED

=> d l63
L63 HAS NO ANSWERS
L63 STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.

=> s l63
SAMPLE SEARCH INITIATED 17:00:48 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 10704 TO ITERATE

18.7% PROCESSED 2000 ITERATIONS 8 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 207880 TO 220280
PROJECTED ANSWERS: 464 TO 1248

L64 8 SEA SSS SAM L63

=> s l63 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 171.65 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 17:00:53 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 215219 TO ITERATE

100.0% PROCESSED 215219 ITERATIONS 976 ANSWERS
SEARCH TIME: 00.00.01

L65 976 SEA SSS FUL L63

=> file hcaplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	172.55	1949.63

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-16.38

FILE 'HCAPLUS' ENTERED AT 17:00:57 ON 11 OCT 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Updated Search

FILE COVERS 1907 - 11 Oct 2007 VOL 147 ISS 16
FILE LAST UPDATED: 10 Oct 2007 (20071010/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

```
=> s l65/rct
          1486 L65
       3023813 RCT/RL
L66         985 L65/RCT
                (L65 (L) RCT/RL)

=> d his

     (FILE 'HOME' ENTERED AT 16:12:38 ON 11 OCT 2007)

     FILE 'REGISTRY' ENTERED AT 16:13:27 ON 11 OCT 2007
                E UNDECANOL/CN
L1             2 S E3

     FILE 'REGISTRY' ENTERED AT 16:21:06 ON 11 OCT 2007
L2                STRUCTURE UPLOADED
L3             9 S L2
L4                STRUCTURE UPLOADED
L5             4 S L4
L6                STRUCTURE UPLOADED
L7            13 S L6
L8          1553 S L6 FULL

     FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
L9          1262 S L8/PREP

     FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
L10               STRUCTURE UPLOADED
L11            50 S L10
L12          3368 S L10 FULL

     FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007
L13          2593 S L12/RCT
L14           470 S L13 AND L9

     FILE 'REGISTRY' ENTERED AT 16:29:01 ON 11 OCT 2007
L15               STRUCTURE UPLOADED
L16            50 S L15
L17          8707 S L15 FULL

     FILE 'HCAPLUS' ENTERED AT 16:31:15 ON 11 OCT 2007
L18         10014 S L17
```

Updated Search

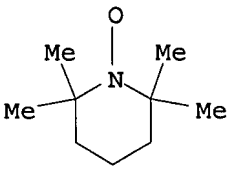
```
L19             3 S L18 AND L14

     FILE 'REGISTRY' ENTERED AT 16:31:58 ON 11 OCT 2007

     FILE 'CAOLD' ENTERED AT 16:32:00 ON 11 OCT 2007
L20             0 S L8 AND L12 AND L17

     FILE 'REGISTRY' ENTERED AT 16:33:28 ON 11 OCT 2007
L21               STRUCTURE UPLOADED
L22             6 S L21
L23             6 S L22
L24          1936 S L22 FULL

     FILE 'HCAPLUS' ENTERED AT 16:35:35 ON 11 OCT 2007
L25          1504 S L24/PREP

     FILE 'REGISTRY' ENTERED AT 16:35:41 ON 11 OCT 2007
L26               STRUCTURE UPLOADED
L27            32 S L26
L28          6553 S L26 FULL

     FILE 'HCAPLUS' ENTERED AT 16:37:09 ON 11 OCT 2007
L29          2704 S L28/RCT
L30           451 S L29 AND L25
L31           451 S L24 AND L30
L32            16 S L30 AND L17
L33             1 S L32 AND SHIOMI, Y?/AU
L34             1 S L32 AND UNO, O?/AU
L35             0 S L34 NOT L33
L36            15 S L32 NOT L33
L37             0 S L36 AND OHTA, A?/AU
L38             0 S L36 AND SUNAKAMI, T?/AU

     FILE 'CAOLD' ENTERED AT 16:40:35 ON 11 OCT 2007
L39             0 S L28 AND L17

     FILE 'REGISTRY' ENTERED AT 16:42:21 ON 11 OCT 2007
L40               STRUCTURE UPLOADED
L41            11 S L40
L42          2565 S L40 FULL

     FILE 'HCAPLUS' ENTERED AT 16:43:51 ON 11 OCT 2007
L43          1369 S L42/RCT

     FILE 'REGISTRY' ENTERED AT 16:43:58 ON 11 OCT 2007
L44               STRUCTURE UPLOADED
L45             7 S L44
L46          1282 S L44 FULL

     FILE 'HCAPLUS' ENTERED AT 16:45:12 ON 11 OCT 2007
L47          1170 S L46/PREP
L48             2 S L47 AND L43 AND L17

     FILE 'CAOLD' ENTERED AT 16:45:42 ON 11 OCT 2007
L49             0 S L46 AND L42 AND L17

     FILE 'CASREACT' ENTERED AT 16:47:37 ON 11 OCT 2007
L50               STRUCTURE UPLOADED
L51             0 S L50
L52             0 S L50 FULL
L53               STRUCTURE UPLOADED


Updated Search
```

```
L54             0 S L53
L55             0 S L53 FULL

     FILE 'REGISTRY' ENTERED AT 16:56:44 ON 11 OCT 2007
L56               STRUCTURE UPLOADED
L57             7 S L56
L58               STRUCTURE UPLOADED
L59            25 S L58
L60          3417 S L58 FULL

     FILE 'HCAPLUS' ENTERED AT 16:59:27 ON 11 OCT 2007
L61          2159 S L60/PREP
L62            11 S L61 AND L17

     FILE 'REGISTRY' ENTERED AT 16:59:46 ON 11 OCT 2007
L63               STRUCTURE UPLOADED
L64             8 S L63
L65           976 S L63 FULL

     FILE 'HCAPLUS' ENTERED AT 17:00:57 ON 11 OCT 2007
L66           985 S L65/RCT

=> s l66 and l62
L67             9 L66 AND L62

=> s l67 and shiomi, y?/au
            228 SHIOMI, Y?/AU
L68             0 L67 AND SHIOMI, Y?/AU

=> s l67 and uno, o?/au
             37 UNO, O?/AU
L69             0 L67 AND UNO, O?/AU

=> s l67 and ohta, a?/au
            930 OHTA, A?/AU
L70             0 L67 AND OHTA, A?/AU

=> s l67 and sunakami, t?/au
              2 SUNAKAMI, T?/AU
L71             0 L67 AND SUNAKAMI, T?/AU

=> d l67, ibib abs hitstr, 1-9

L67  ANSWER 1 OF 9  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2007:440534  HCAPLUS
DOCUMENT NUMBER:          147:72448
TITLE:                    Efficient NO equivalent for activation of molecular
                          oxygen and its applications in transition-metal-free
                          catalytic aerobic alcohol oxidation
AUTHOR(S):                Xie, Yi; Mo, Weimin; Xu, Dong; Shen, Zhenlu; Sun, Nan;
                          Hu, Baoxiang; Hu, Xinquan
CORPORATE SOURCE:         College of Chemical Engineering and Material Sciences,
                          Zhejiang University of Technology, Hangzhou, 310014,
                          Peop. Rep. China
SOURCE:                   Journal of Organic Chemistry (2007), 72(11), 4288-4291
                          CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER:                American Chemical Society
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
OTHER SOURCE(S):          CASREACT 147:72448
AB   Tert-Bu nitrite (TBN) was identified as an efficient NO equivalent for the
```

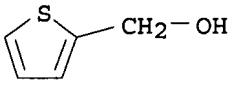
Updated Search

activation of mol. oxygen. The unique property of TBN enabled TEMPO-catalyzed aerobic alc. oxidation to be performed in high-volume efficiency. Up to a 16,000 turnover number was achieved in this transition-metal-free aerobic catalytic system. Under the optimal reaction conditions, various alcs. were converted into their corresponding carbonyl compds. with TEMPO/HBr/TBN as catalyst. The newly developed method was suitable for the oxidation of solid substrate alcs. with high m.p. and/or low solubility under the help of min. solvent to form a slurry.

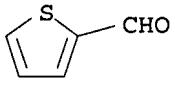
IT 2564-83-2, TEMPO
RL: CAT (Catalyst use); USES (Uses)
(tert-Bu nitrite as nitric oxide equivalent in aerobic alc. oxidation using tetramethylpiperidyloxy-hydrogen bromide-tert-Bu nitrite catalyst system)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 636-72-6, 2-Thiophenemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(tert-Bu nitrite as nitric oxide equivalent in aerobic alc. oxidation using tetramethylpiperidyloxy-hydrogen bromide-tert-Bu nitrite catalyst system)
RN 636-72-6 HCAPLUS
CN 2-Thiophenemethanol (CA INDEX NAME)



IT 98-03-3P, 2-Thiophenecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(tert-Bu nitrite as nitric oxide equivalent in aerobic alc. oxidation using tetramethylpiperidyloxy-hydrogen bromide-tert-Bu nitrite catalyst system)
RN 98-03-3 HCAPLUS
CN 2-Thiophenecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 68 THERE ARE 68 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1187826 HCAPLUS
DOCUMENT NUMBER: 146:121623
TITLE: Multipolymer reaction system for selective aerobic alcohol oxidation: simultaneous use of multiple

Updated Search

different polymer-supported ligands

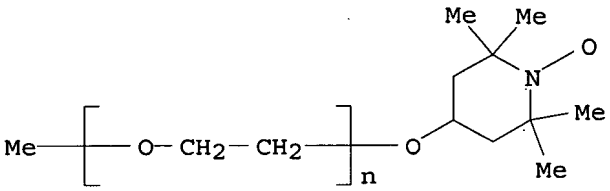
AUTHOR(S): Chung, Cecilia Wan Ying; Toy, Patrick H.
CORPORATE SOURCE: Department of Chemistry, The University of Hong Kong, Hong Kong, Peop. Rep. China

SOURCE: Journal of Combinatorial Chemistry (2007), 9(1), 115-120
CODEN: JCCHFF; ISSN: 1520-4766
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A multipolymer reaction system has been developed in which a water-soluble polymer-supported 2,2'-bipyridine group and a similarly immobilized TEMPO derivative are used as ligands for copper to effect the mild and selective aerobic oxidation of primary alcs. in acetonitrile-water solvent. In this reaction system, poly(ethylene glycol) monomethyl ether (mol. weight = 5000 Da) was used as the support for both the 2,2'-bipyridine and TEMPO moieties because of its solubility properties. The use of these functionalized polymers simultaneously in catalytic quantities allows for primary alcs. to be oxidized selectively to the corresponding aldehydes in an environmentally friendly manner. This is the first reported example of using two different polymer-supported ligands together to form an organometallic species capable of catalyzing an organic reaction.

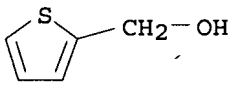
IT 848328-35-8P, 4-Hydroxy-TEMPO
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(aerobic oxidation of alcs. to aldehydes using copper-polymer-supported bipyridine and polymer-supported TEMPO catalyst)

RN 848328-35-8 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[(2,2,6,6-tetramethyl-1-oxy-4-piperidinyl)oxy]- (9CI) (CA INDEX NAME)



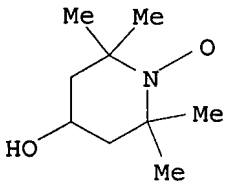
IT 636-72-6, 2-Thiophenemethanol 2226-96-2, 4-Hydroxy-TEMPO
RL: RCT (Reactant); RACT (Reactant or reagent)
(aerobic oxidation of alcs. to aldehydes using copper-polymer-supported bipyridine and polymer-supported TEMPO catalyst)

RN 636-72-6 HCAPLUS
CN 2-Thiophenemethanol (CA INDEX NAME)

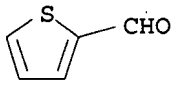


RN 2226-96-2 HCAPLUS
CN 1-Piperidinyloxy, 4-hydroxy-2,2,6,6-tetramethyl- (CA INDEX NAME)

Updated Search

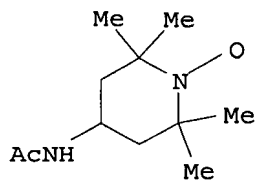


IT 98-03-3P, 2-Thiophenecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(aerobic oxidation of alcs. to aldehydes using copper-polymer-supported bipyridine and polymer-supported TEMPO catalyst)
RN 98-03-3 HCAPLUS
CN 2-Thiophenecarboxaldehyde (CA INDEX NAME)



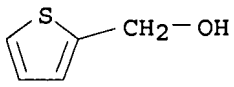
REFERENCE COUNT: 93 THERE ARE 93 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:761970 HCAPLUS
DOCUMENT NUMBER: 145:356134
TITLE: Cu(II)-Catalyzed Selective Aerobic Oxidation of Alcohols under Mild Conditions
AUTHOR(S): Jiang, Nan; Ragauskas, Arthur J.
CORPORATE SOURCE: Department of Chemistry, Georgia Institute of Technology, Atlanta, GA, 30332, USA
SOURCE: Journal of Organic Chemistry (2006), 71(18), 7087-7090
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 145:356134
AB An efficient four-component system consisting of acetamido-TEMPO/Cu(ClO4)2/TMDP/DABCO in DMSO has been developed for room-temperature aerobic alc. oxidation Under the optimal conditions, various alcs. could be converted into their corresponding aldehydes or ketones in good to excellent yields. The newly developed catalytic system could also be recycled and reused for three runs without any significant loss of catalytic activity.
IT 14691-89-5, 4-Acetamido-TEMPO
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehydes or ketones by aerobic alc. oxidation catalyzed by acetamido-TEMPO/Cu(ClO4)2/TMDP/DABCO in DMSO)
RN 14691-89-5 HCAPLUS
CN 1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl- (CA INDEX NAME)

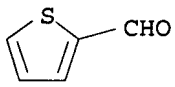


Updated Search

IT 636-72-6, 2-Thiophenemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehydes or ketones by aerobic alc. oxidation catalyzed by acetamido-TEMPO/Cu(ClO4)2/TMDP/DABCO in DMSO)
RN 636-72-6 HCAPLUS
CN 2-Thiophenemethanol (CA INDEX NAME)



IT 98-03-3P, 2-Formylthiophene
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehydes or ketones by aerobic alc. oxidation catalyzed by acetamido-TEMPO/Cu(ClO4)2/TMDP/DABCO in DMSO)
RN 98-03-3 HCAPLUS
CN 2-Thiophenecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 80 THERE ARE 80 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

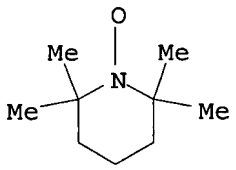
L67 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:669406 HCAPLUS
DOCUMENT NUMBER: 145:166657
TITLE: Process for preparation of aldehydes and ketones from alcohols by oxidation with air
INVENTOR(S): Liu, Renhua; Hu, Xinquan; Dong, Chunyan; Liang, Xinmiao
PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1796349	A	20060705	CN 2004-10101893	20041230

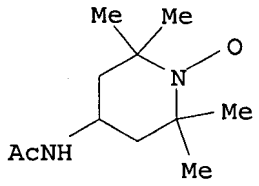
PRIORITY APPLN. INFO.: CN 2004-10101893 20041230
OTHER SOURCE(S): CASREACT 145:166657
AB The method comprises oxidizing alc. with air in the presence of 0.2 mol% TEMPO free radical or its derivative, 4-10 mol% active bromine (1,3-dibromo-5,5-dimethylhydantoin, N-bromosuccinimide, or pyridinium tribromide) and 4-10 mol% nitrite (sodium nitrite or potassium nitrite) in 1-5 mL water and 100 mL dichloromethane at 100°C and 0.4-0.9 Mpa for 1-10 h. The alc. can be benzyl alc., 4-methylbenzyl alc., 3-methylbenzyl alc., 2-methylbenzyl alc., 4-chlorobenzyl alc., 3-chlorobenzyl alc., 2-chlorobenzyl alc., α-methylbenzyl alc., 3-pyridinemethanol, 2-thiophenemethanol, cyclohexanol, octanol, or menthol.
IT 2564-83-2, 2,2,6,6-Tetramethylpiperidine N-oxy 14691-89-5

Updated Search

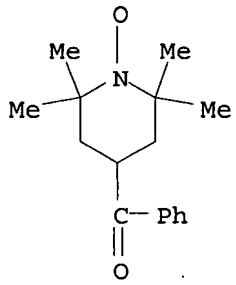
54052-87-8
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehydes and ketones from alcs. by oxidation with air)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



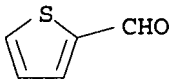
RN 14691-89-5 HCAPLUS
CN 1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl- (CA INDEX NAME)



RN 54052-87-8 HCAPLUS
CN 1-Piperidinyloxy, 4-benzoyl-2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)



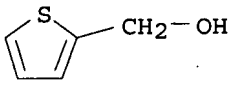
IT 98-03-3P, 2-Thiophenealdehyde
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehydes and ketones from alcs. by oxidation with air)
RN 98-03-3 HCAPLUS
CN 2-Thiophenecarboxaldehyde (CA INDEX NAME)



IT 636-72-6, 2-Thiophenemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehydes and ketones from alcs. by oxidation with air)
RN 636-72-6 HCAPLUS

Updated Search

CN 2-Thiophenemethanol (CA INDEX NAME)



L67 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:624725 HCAPLUS
DOCUMENT NUMBER: 145:124320
TITLE: Process for preparation of aromatic aldehydes and ketones by catalytic oxidation in aqueous solution
INVENTOR(S): Hu, Xinquan; Liu, Renhua; Dong, Chunyan; Liang, Xinmiao
PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 10 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

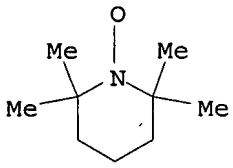
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1789225	A	20060621	CN 2004-10098936	20041216
PRIORITY APPLN. INFO.:			CN 2004-10098936	20041216

OTHER SOURCE(S): CASREACT 145:124320

AB The invention pertains to a method for catalytically oxidizing arylmethanol to aryl aldehyde or ketone by air at 40-120 °C for 1.5-16 h at 0.1-1.2 MPa, in which 2,2,6,6-tetramethylpiperidinyl-1-oxy (TEMPO) or its derivs., nitrites e.g. sodium nitrite or potassium nitrite, and active bromide to produce hypobromous acid in situ e.g. 1,3-dibromo-5,5-dimethyl-hydantoin, N-bromosuccinimide, pyridinium tribromide etc. at a molar ratio of 1:2-4:4 are used as catalysts. The molar ratio of TEMPO or its derivative and arylmethanol is about 1:100.

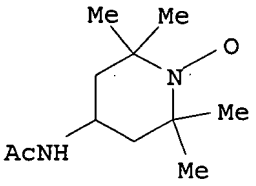
IT 2564-83-2, 2,2,6,6-Tetramethylpiperidinyl-1-oxy 14691-89-5
, 4-(Acetylamino)-2,2,6,6-tetramethylpiperidinyl-1-oxy 54052-87-8
, 4-Benzoyl-2,2,6,6-tetramethylpiperidinyl-1-oxy
RL: CAT (Catalyst use); USES (Uses)
(preparation of aromatic aldehydes and ketones by catalytic oxidation in aqueous solution)

RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

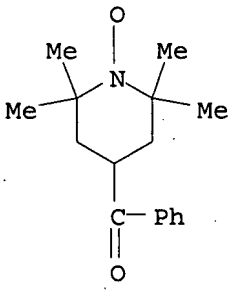


RN 14691-89-5 HCAPLUS
CN 1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl- (CA INDEX NAME)

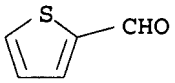
Updated Search



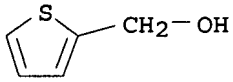
RN 54052-87-8 HCAPLUS
CN 1-Piperidinyloxy, 4-benzoyl-2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)



IT 98-03-3P, 2-Thienyl aldehyde
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of aromatic aldehydes and ketones by catalytic oxidation in aqueous solution)
RN 98-03-3 HCAPLUS
CN 2-Thiophenecarboxaldehyde (CA INDEX NAME)



IT 636-72-6, 2-Thienyl methanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aromatic aldehydes and ketones by catalytic oxidation in aqueous solution)
RN 636-72-6 HCAPLUS
CN 2-Thiophenemethanol (CA INDEX NAME)



L67 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:284083 HCAPLUS
DOCUMENT NUMBER: 145:7498
TITLE: Catalyst system and method for preparation of aldehyde and ketone from alcohol
INVENTOR(S): Liu, Renhua; Hu, Xinquan; Dong, Chunyan; Liang,

Updated Search

Xinmiao
PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 12 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

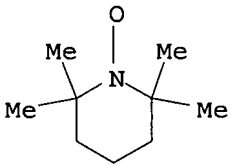
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1651381	A	20050810	CN 2004-10003791	20040205

PRIORITY APPLN. INFO.: CN 2004-10003791 20040205
OTHER SOURCE(S): CASREACT 145:7498

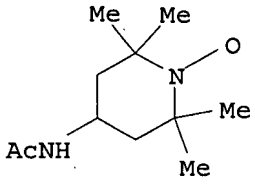
AB This invention pertains to catalyst system for preparing aldehyde and ketone from alc., and the catalyst system comprises oxidizing agent and catalyst of 2,2,6,6-tetramethyl-1-piperidinyloxy, halogen, and nitrite. The 2,2,6,6-tetra-Me piperidine-oxo free radical is 4-benzoyl-2,2,6,6-tetramethylpiperidinyloxy, or 4-acetylamino-2,2,6,6-tetramethylpiperidinyloxy. The method for preparing aldehyde and ketone from alc. comprises mixing alc. and catalyst system and reacting at 40-120°C and 0.1-1.0MPa for 0.5-8 h. The alc. is primary alc. of substituted benzyl alc., fatty primary alc. and/or N, S heteroaryl substituted methanol; secondary alc. of aryl substituted secondary alc., fatty secondary alc. or/and alicyclic alc.

IT 2564-83-2, Tempo 14691-89-5 54052-87-8
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehyde and ketone by oxidation of alc. in presence of TEMPO,
nitrite, and halogen)

RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

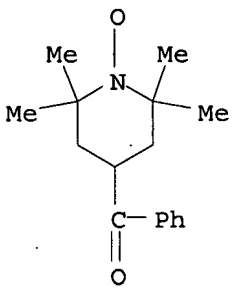


RN 14691-89-5 HCAPLUS
CN 1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl- (CA INDEX NAME)

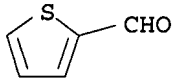


RN 54052-87-8 HCAPLUS
CN 1-Piperidinyloxy, 4-benzoyl-2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)

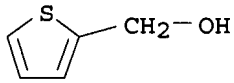
Updated Search



IT 98-03-3P, 2-Thiophenecarboxaldehyde
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehyde and ketone by oxidation of alc. in presence of TEMPO,
nitrite, and halogen)
RN 98-03-3 HCAPLUS
CN 2-Thiophenecarboxaldehyde (CA INDEX NAME)



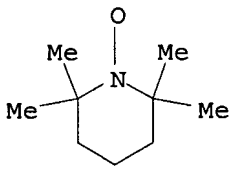
IT 636-72-6, 2-Thiophenemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehyde and ketone by oxidation of alc. in presence of TEMPO,
nitrite, and halogen)
RN 636-72-6 HCAPLUS
CN 2-Thiophenemethanol (CA INDEX NAME)



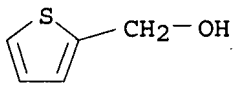
L67 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1148403 HCAPLUS
DOCUMENT NUMBER: 144:51217
TITLE: NaNO2-activated, iron-TEMPO catalyst system for aerobic alcohol oxidation under mild conditions
AUTHOR(S): Wang, Naiwei; Liu, Renhua; Chen, Jiping; Liang, Xinmiao
CORPORATE SOURCE: Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China
SOURCE: Chemical Communications (Cambridge, United Kingdom) (2005), (42), 5322-5324
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 144:51217
AB FeCl3-TEMPO-NaNO2 catalyzes the selective and mild aerobic oxidation of a broad range of alcs. to the corresponding aldehydes and ketones.
IT 2564-83-2, Tempo

Updated Search

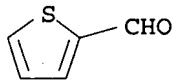
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehydes and ketones via FeCl3-TEMPO-NaNO2 catalyzed selective aerobic oxidation of alcs.)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 636-72-6, 2-Hydroxymethylthiophene
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehydes and ketones via FeCl3-TEMPO-NaNO2 catalyzed selective aerobic oxidation of alcs.)
RN 636-72-6 HCAPLUS
CN 2-Thiophenemethanol (CA INDEX NAME)



IT 98-03-3P, 2-Thiophenecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehydes and ketones via FeCl3-TEMPO-NaNO2 catalyzed selective aerobic oxidation of alcs.)
RN 98-03-3 HCAPLUS
CN 2-Thiophenecarboxaldehyde (CA INDEX NAME)



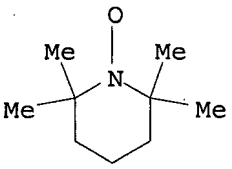
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:1148813 HCAPLUS
DOCUMENT NUMBER: 142:74314
TITLE: Highly Efficient Catalytic Aerobic Oxidations of Benzylic Alcohols in Water
AUTHOR(S): Liu, Renhua; Dong, Chunyan; Liang, Xinmiao; Wang, Xiujuan; Hu, Xinquan
CORPORATE SOURCE: Dalian Institute of Chemical Physics, the Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China
SOURCE: Journal of Organic Chemistry (2005), 70(2), 729-731
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:74314
AB A highly efficient catalytic system without transition metals in water has been developed for aerobic oxidns. of benzylic alcs. The newly developed

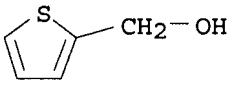
Updated Search

catalyst system oxidized benzylic alcs. and heteroarom. analogs with 1 mol % TEMPO as a catalyst and with a catalytic amount of 1,3-dibromo-5,5-dimethylhydantoin and NaNO2 as cocatalysts. Under the optimal conditions, various alcs. were converted into their corresponding aldehydes or ketones in high yields.

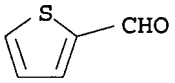
IT 2564-83-2, TEMPO
RL: CAT (Catalyst use); USES (Uses)
(preparation of carbonyl compound via catalytic aerobic oxidation of alcs. with
TEMPO in water)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 636-72-6, 2-Thiophenemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of carbonyl compound via catalytic aerobic oxidation of alcs. with
TEMPO in water)
RN 636-72-6 HCAPLUS
CN 2-Thiophenemethanol (CA INDEX NAME)



IT 98-03-3P, 2-Thiophenecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of carbonyl compound via catalytic aerobic oxidation of alcs. with
TEMPO in water)
RN 98-03-3 HCAPLUS
CN 2-Thiophenecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:199180 HCAPLUS
DOCUMENT NUMBER: 140:391051
TITLE: Transition-Metal-Free: A Highly Efficient Catalytic Aerobic Alcohol Oxidation Process
AUTHOR(S): Liu, Renhua; Liang, Xinmiao; Dong, Chunyan; Hu, Xinquan
CORPORATE SOURCE: Dalian Institute of Chemical Physics, Chinese Academy

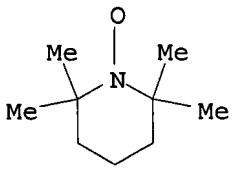
Updated Search

of Sciences, Dalian, 116023, Peop. Rep. China
SOURCE: Journal of the American Chemical Society (2004), 126(13), 4112-4113
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:391051

AB A highly efficient catalytic system without transition metals has been developed for aerobic alc. oxidns. Under the optimal reaction conditions, various alc. substrates were converted into their corresponding carbonyl compds. by air with TEMPO/Br2/NaNO2 as catalyst.

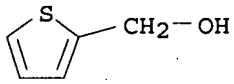
IT 2564-83-2, TEMPO
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehydes and ketones via transition metal free aerobic oxidation of alcs. catalyzed by TEMPO/Br2/NaNO2)

RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



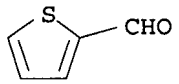
IT 636-72-6, 2-Thiophenylmethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehydes and ketones via transition metal free aerobic oxidation of alcs. catalyzed by TEMPO/Br2/NaNO2)

RN 636-72-6 HCAPLUS
CN 2-Thiophenemethanol (CA INDEX NAME)



IT 98-03-3P, 2-Thiophenecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehydes and ketones via transition metal free aerobic oxidation of alcs. catalyzed by TEMPO/Br2/NaNO2)

RN 98-03-3 HCAPLUS
CN 2-Thiophenecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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                                                       ENTRY    SESSION
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  assignees, and patent information, e.g., patent numbers, are
  now searchable from 1907-1966.  TIFF images of CA abstracts
  printed between 1907-1966 are available in the PAGE
  display formats.

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     (FILE 'HOME' ENTERED AT 16:12:38 ON 11 OCT 2007)

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L1           2 S E3

     FILE 'REGISTRY' ENTERED AT 16:21:06 ON 11 OCT 2007
L2             STRUCTURE UPLOADED
L3           9 S L2
L4             STRUCTURE UPLOADED
L5           4 S L4
L6             STRUCTURE UPLOADED
L7          13 S L6
L8        1553 S L6 FULL

     FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
L9        1262 S L8/PREP

     FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
L10            STRUCTURE UPLOADED
L11         50 S L10
L12       3368 S L10 FULL

     FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007
L13       2593 S L12/RCT
L14        470 S L13 AND L9

     FILE 'REGISTRY' ENTERED AT 16:29:01 ON 11 OCT 2007
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L16         50 S L15
L17       8707 S L15 FULL
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Updated Search

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L19           3 S L18 AND L14

     FILE 'REGISTRY' ENTERED AT 16:31:58 ON 11 OCT 2007

     FILE 'CAOLD' ENTERED AT 16:32:00 ON 11 OCT 2007
L20           0 S L8 AND L12 AND L17

     FILE 'REGISTRY' ENTERED AT 16:33:28 ON 11 OCT 2007
L21               STRUCTURE UPLOADED
L22           6 S L21
L23           6 S L22
L24        1936 S L22 FULL

     FILE 'HCAPLUS' ENTERED AT 16:35:35 ON 11 OCT 2007
L25        1504 S L24/PREP

     FILE 'REGISTRY' ENTERED AT 16:35:41 ON 11 OCT 2007
L26               STRUCTURE UPLOADED
L27          32 S L26
L28        6553 S L26 FULL

     FILE 'HCAPLUS' ENTERED AT 16:37:09 ON 11 OCT 2007
L29        2704 S L28/RCT
L30         451 S L29 AND L25
L31         451 S L24 AND L30
L32          16 S L30 AND L17
L33           1 S L32 AND SHIOMI, Y?/AU
L34           1 S L32 AND UNO, O?/AU
L35           0 S L34 NOT L33
L36          15 S L32 NOT L33
L37           0 S L36 AND OHTA, A?/AU
L38           0 S L36 AND SUNAKAMI, T?/AU

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L39           0 S L28 AND L17

     FILE 'REGISTRY' ENTERED AT 16:42:21 ON 11 OCT 2007
L40               STRUCTURE UPLOADED
L41          11 S L40
L42        2565 S L40 FULL

     FILE 'HCAPLUS' ENTERED AT 16:43:51 ON 11 OCT 2007
L43        1369 S L42/RCT

     FILE 'REGISTRY' ENTERED AT 16:43:58 ON 11 OCT 2007
L44               STRUCTURE UPLOADED
L45           7 S L44
L46        1282 S L44 FULL

     FILE 'HCAPLUS' ENTERED AT 16:45:12 ON 11 OCT 2007
L47        1170 S L46/PREP
L48           2 S L47 AND L43 AND L17

     FILE 'CAOLD' ENTERED AT 16:45:42 ON 11 OCT 2007
L49           0 S L46 AND L42 AND L17

     FILE 'CASREACT' ENTERED AT 16:47:37 ON 11 OCT 2007
L50               STRUCTURE UPLOADED
L51           0 S L50
```

Updated Search

```
L52             0 S L50 FULL
L53               STRUCTURE UPLOADED
L54             0 S L53
L55             0 S L53 FULL

     FILE 'REGISTRY' ENTERED AT 16:56:44 ON 11 OCT 2007
L56               STRUCTURE UPLOADED
L57             7 S L56
L58               STRUCTURE UPLOADED
L59            25 S L58
L60          3417 S L58 FULL

     FILE 'HCAPLUS' ENTERED AT 16:59:27 ON 11 OCT 2007
L61          2159 S L60/PREP
L62            11 S L61 AND L17

     FILE 'REGISTRY' ENTERED AT 16:59:46 ON 11 OCT 2007
L63               STRUCTURE UPLOADED
L64             8 S L63
L65           976 S L63 FULL

     FILE 'HCAPLUS' ENTERED AT 17:00:57 ON 11 OCT 2007
L66           985 S L65/RCT
L67             9 S L66 AND L62
L68             0 S L67 AND SHIOMI, Y?/AU
L69             0 S L67 AND UNO, O?/AU
L70             0 S L67 AND OHTA, A?/AU
L71             0 S L67 AND SUNAKAMI, T?/AU

     FILE 'CAOLD' ENTERED AT 17:01:52 ON 11 OCT 2007

=> s l65 and l60 and l17
            50 L65
           153 L60
            82 L17
L72             0 L65 AND L60 AND L17

=> file reg
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                  ENTRY    SESSION
FULL ESTIMATED COST                                0.45    2002.71

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
                                                  ENTRY    SESSION
CA SUBSCRIBER PRICE                                0.00     -23.40

FILE 'REGISTRY' ENTERED AT 17:02:43 ON 11 OCT 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2007 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   10 OCT 2007  HIGHEST RN 950149-06-1
DICTIONARY FILE UPDATES:  10 OCT 2007  HIGHEST RN 950149-06-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007
```

Updated Search

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\a65tgbv.str

L73 STRUCTURE UPLOADED

=> d l73
L73 HAS NO ANSWERS
L73 STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.

=> s l73
SAMPLE SEARCH INITIATED 17:03:34 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 10361 TO ITERATE

19.3% PROCESSED 2000 ITERATIONS 2 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 201120 TO 213320
PROJECTED ANSWERS: 14 TO 400

L74 2 SEA SSS SAM L73

=> s l73 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 171.65 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 17:03:39 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 206136 TO ITERATE

100.0% PROCESSED 206136 ITERATIONS 500 ANSWERS
SEARCH TIME: 00.00.03

L75 500 SEA SSS FUL L73

=> file hcaplus
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 172.55 2175.26

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE ENTRY TOTAL SESSION
CA SUBSCRIBER PRICE 0.00 -23.40

FILE 'HCAPLUS' ENTERED AT 17:03:45 ON 11 OCT 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

Updated Search

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 11 Oct 2007 VOL 147 ISS 16
FILE LAST UPDATED: 10 Oct 2007 (20071010/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s l75/rct
           708 L75
       3023813 RCT/RL
L76         541 L75/RCT
                (L75 (L) RCT/RL)
```

```
=> file reg
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                 2.60    2177.86

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)    SINCE FILE      TOTAL
                                                   ENTRY    SESSION
CA SUBSCRIBER PRICE                                 0.00     -23.40
```

FILE 'REGISTRY' ENTERED AT 17:03:53 ON 11 OCT 2007

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1
DICTIONARY FILE UPDATES: 10 OCT 2007 HIGHEST RN 950149-06-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

Updated Search

```
=>
Uploading C:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\awdsfhnjm.str

L77     STRUCTURE UPLOADED

=> d l77
L77 HAS NO ANSWERS
L77             STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.


=> s l77 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 171.65 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 17:04:56 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   248434 TO ITERATE

100.0% PROCESSED   248434 ITERATIONS                          712 ANSWERS
SEARCH TIME: 00.00.03

L78         712 SEA SSS FUL L77

=> d his

     (FILE 'HOME' ENTERED AT 16:12:38 ON 11 OCT 2007)

     FILE 'REGISTRY' ENTERED AT 16:13:27 ON 11 OCT 2007
                E UNDECANOL/CN
L1            2 S E3

     FILE 'REGISTRY' ENTERED AT 16:21:06 ON 11 OCT 2007
L2              STRUCTURE UPLOADED
L3            9 S L2
L4              STRUCTURE UPLOADED
L5            4 S L4
L6              STRUCTURE UPLOADED
L7           13 S L6
L8         1553 S L6 FULL

     FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
L9         1262 S L8/PREP

     FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
L10             STRUCTURE UPLOADED
L11           50 S L10
L12        3368 S L10 FULL

     FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007
L13        2593 S L12/RCT
L14         470 S L13 AND L9

     FILE 'REGISTRY' ENTERED AT 16:29:01 ON 11 OCT 2007
L15             STRUCTURE UPLOADED
L16           50 S L15
L17        8707 S L15 FULL

     FILE 'HCAPLUS' ENTERED AT 16:31:15 ON 11 OCT 2007


Updated Search
```

```
L18         10014 S L17
L19             3 S L18 AND L14

     FILE 'REGISTRY' ENTERED AT 16:31:58 ON 11 OCT 2007

     FILE 'CAOLD' ENTERED AT 16:32:00 ON 11 OCT 2007
L20             0 S L8 AND L12 AND L17

     FILE 'REGISTRY' ENTERED AT 16:33:28 ON 11 OCT 2007
L21               STRUCTURE UPLOADED
L22             6 S L21
L23             6 S L22
L24          1936 S L22 FULL

     FILE 'HCAPLUS' ENTERED AT 16:35:35 ON 11 OCT 2007
L25          1504 S L24/PREP

     FILE 'REGISTRY' ENTERED AT 16:35:41 ON 11 OCT 2007
L26               STRUCTURE UPLOADED
L27            32 S L26
L28          6553 S L26 FULL

     FILE 'HCAPLUS' ENTERED AT 16:37:09 ON 11 OCT 2007
L29          2704 S L28/RCT
L30           451 S L29 AND L25
L31           451 S L24 AND L30
L32            16 S L30 AND L17
L33             1 S L32 AND SHIOMI, Y?/AU
L34             1 S L32 AND UNO, O?/AU
L35             0 S L34 NOT L33
L36            15 S L32 NOT L33
L37             0 S L36 AND OHTA, A?/AU
L38             0 S L36 AND SUNAKAMI, T?/AU

     FILE 'CAOLD' ENTERED AT 16:40:35 ON 11 OCT 2007
L39             0 S L28 AND L17

     FILE 'REGISTRY' ENTERED AT 16:42:21 ON 11 OCT 2007
L40               STRUCTURE UPLOADED
L41            11 S L40
L42          2565 S L40 FULL

     FILE 'HCAPLUS' ENTERED AT 16:43:51 ON 11 OCT 2007
L43          1369 S L42/RCT

     FILE 'REGISTRY' ENTERED AT 16:43:58 ON 11 OCT 2007
L44               STRUCTURE UPLOADED
L45             7 S L44
L46          1282 S L44 FULL

     FILE 'HCAPLUS' ENTERED AT 16:45:12 ON 11 OCT 2007
L47          1170 S L46/PREP
L48             2 S L47 AND L43 AND L17

     FILE 'CAOLD' ENTERED AT 16:45:42 ON 11 OCT 2007
L49             0 S L46 AND L42 AND L17

     FILE 'CASREACT' ENTERED AT 16:47:37 ON 11 OCT 2007
L50               STRUCTURE UPLOADED
L51             0 S L50
L52             0 S L50 FULL
```

Updated Search

```
L53             STRUCTURE UPLOADED
L54           0 S L53
L55           0 S L53 FULL

     FILE 'REGISTRY' ENTERED AT 16:56:44 ON 11 OCT 2007
L56             STRUCTURE UPLOADED
L57           7 S L56
L58             STRUCTURE UPLOADED
L59          25 S L58
L60        3417 S L58 FULL

     FILE 'HCAPLUS' ENTERED AT 16:59:27 ON 11 OCT 2007
L61        2159 S L60/PREP
L62          11 S L61 AND L17

     FILE 'REGISTRY' ENTERED AT 16:59:46 ON 11 OCT 2007
L63             STRUCTURE UPLOADED
L64           8 S L63
L65         976 S L63 FULL

     FILE 'HCAPLUS' ENTERED AT 17:00:57 ON 11 OCT 2007
L66         985 S L65/RCT
L67           9 S L66 AND L62
L68           0 S L67 AND SHIOMI, Y?/AU
L69           0 S L67 AND UNO, O?/AU
L70           0 S L67 AND OHTA, A?/AU
L71           0 S L67 AND SUNAKAMI, T?/AU

     FILE 'CAOLD' ENTERED AT 17:01:52 ON 11 OCT 2007
L72           0 S L65 AND L60 AND L17

     FILE 'REGISTRY' ENTERED AT 17:02:43 ON 11 OCT 2007
L73             STRUCTURE UPLOADED
L74           2 S L73
L75         500 S L73 FULL

     FILE 'HCAPLUS' ENTERED AT 17:03:45 ON 11 OCT 2007
L76         541 S L75/RCT

     FILE 'REGISTRY' ENTERED AT 17:03:53 ON 11 OCT 2007
L77             STRUCTURE UPLOADED
L78         712 S L77 FULL

=> file hacplus
'HACPLUS' IS NOT A VALID FILE NAME
SESSION CONTINUES IN FILE 'REGISTRY'
Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files
that are available.  If you have requested multiple files, you can
specify a corrected file name or you can enter "IGNORE" to continue
accessing the remaining file names entered.

=> file hcaplus
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                               172.55    2350.41

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
                                                   ENTRY    SESSION
CA SUBSCRIBER PRICE                                 0.00     -23.40

FILE 'HCAPLUS' ENTERED AT 17:05:07 ON 11 OCT 2007


Updated Search
```

FILE COVERS 1907 - 11 Oct 2007 VOL 147 ISS 16
FILE LAST UPDATED: 10 Oct 2007 (20071010/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

```
=> s l78/prep
          1962 L78
       4473482 PREP/RL
L79         557 L78/PREP
                (L78 (L) PREP/RL)

=> d his

     (FILE 'HOME' ENTERED AT 16:12:38 ON 11 OCT 2007)

     FILE 'REGISTRY' ENTERED AT 16:13:27 ON 11 OCT 2007
                E UNDECANOL/CN
L1            2 S E3

     FILE 'REGISTRY' ENTERED AT 16:21:06 ON 11 OCT 2007
L2                STRUCTURE UPLOADED
L3            9 S L2
L4                STRUCTURE UPLOADED
L5            4 S L4
L6                STRUCTURE UPLOADED
L7           13 S L6
L8         1553 S L6 FULL

     FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
L9         1262 S L8/PREP

     FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
L10               STRUCTURE UPLOADED
L11           50 S L10
L12         3368 S L10 FULL

     FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007
L13         2593 S L12/RCT
L14          470 S L13 AND L9

     FILE 'REGISTRY' ENTERED AT 16:29:01 ON 11 OCT 2007
L15               STRUCTURE UPLOADED
L16           50 S L15
```

Updated Search

```
L17        8707 S L15 FULL

     FILE 'HCAPLUS' ENTERED AT 16:31:15 ON 11 OCT 2007
L18       10014 S L17
L19           3 S L18 AND L14

     FILE 'REGISTRY' ENTERED AT 16:31:58 ON 11 OCT 2007

     FILE 'CAOLD' ENTERED AT 16:32:00 ON 11 OCT 2007
L20           0 S L8 AND L12 AND L17

     FILE 'REGISTRY' ENTERED AT 16:33:28 ON 11 OCT 2007
L21               STRUCTURE UPLOADED
L22           6 S L21
L23           6 S L22
L24        1936 S L22 FULL

     FILE 'HCAPLUS' ENTERED AT 16:35:35 ON 11 OCT 2007
L25        1504 S L24/PREP

     FILE 'REGISTRY' ENTERED AT 16:35:41 ON 11 OCT 2007
L26               STRUCTURE UPLOADED
L27          32 S L26
L28        6553 S L26 FULL

     FILE 'HCAPLUS' ENTERED AT 16:37:09 ON 11 OCT 2007
L29        2704 S L28/RCT
L30         451 S L29 AND L25
L31         451 S L24 AND L30
L32          16 S L30 AND L17
L33           1 S L32 AND SHIOMI, Y?/AU
L34           1 S L32 AND UNO, O?/AU
L35           0 S L34 NOT L33
L36          15 S L32 NOT L33
L37           0 S L36 AND OHTA, A?/AU
L38           0 S L36 AND SUNAKAMI, T?/AU

     FILE 'CAOLD' ENTERED AT 16:40:35 ON 11 OCT 2007
L39           0 S L28 AND L17

     FILE 'REGISTRY' ENTERED AT 16:42:21 ON 11 OCT 2007
L40               STRUCTURE UPLOADED
L41          11 S L40
L42        2565 S L40 FULL

     FILE 'HCAPLUS' ENTERED AT 16:43:51 ON 11 OCT 2007
L43        1369 S L42/RCT

     FILE 'REGISTRY' ENTERED AT 16:43:58 ON 11 OCT 2007
L44               STRUCTURE UPLOADED
L45           7 S L44
L46        1282 S L44 FULL

     FILE 'HCAPLUS' ENTERED AT 16:45:12 ON 11 OCT 2007
L47        1170 S L46/PREP
L48           2 S L47 AND L43 AND L17

     FILE 'CAOLD' ENTERED AT 16:45:42 ON 11 OCT 2007
L49           0 S L46 AND L42 AND L17

     FILE 'CASREACT' ENTERED AT 16:47:37 ON 11 OCT 2007


Updated Search
```

```
L50             STRUCTURE UPLOADED
L51           0 S L50
L52           0 S L50 FULL
L53             STRUCTURE UPLOADED
L54           0 S L53
L55           0 S L53 FULL

     FILE 'REGISTRY' ENTERED AT 16:56:44 ON 11 OCT 2007
L56             STRUCTURE UPLOADED
L57           7 S L56
L58             STRUCTURE UPLOADED
L59          25 S L58
L60        3417 S L58 FULL

     FILE 'HCAPLUS' ENTERED AT 16:59:27 ON 11 OCT 2007
L61        2159 S L60/PREP
L62          11 S L61 AND L17

     FILE 'REGISTRY' ENTERED AT 16:59:46 ON 11 OCT 2007
L63             STRUCTURE UPLOADED
L64           8 S L63
L65         976 S L63 FULL

     FILE 'HCAPLUS' ENTERED AT 17:00:57 ON 11 OCT 2007
L66         985 S L65/RCT
L67           9 S L66 AND L62
L68           0 S L67 AND SHIOMI, Y?/AU
L69           0 S L67 AND UNO, O?/AU
L70           0 S L67 AND OHTA, A?/AU
L71           0 S L67 AND SUNAKAMI, T?/AU

     FILE 'CAOLD' ENTERED AT 17:01:52 ON 11 OCT 2007
L72           0 S L65 AND L60 AND L17

     FILE 'REGISTRY' ENTERED AT 17:02:43 ON 11 OCT 2007
L73             STRUCTURE UPLOADED
L74           2 S L73
L75         500 S L73 FULL

     FILE 'HCAPLUS' ENTERED AT 17:03:45 ON 11 OCT 2007
L76         541 S L75/RCT

     FILE 'REGISTRY' ENTERED AT 17:03:53 ON 11 OCT 2007
L77             STRUCTURE UPLOADED
L78         712 S L77 FULL

     FILE 'HCAPLUS' ENTERED AT 17:05:07 ON 11 OCT 2007
L79         557 S L78/PREP

=> s l79 and l76 and l17
        10014 L17
L80           1 L79 AND L76 AND L17

=> d l80, ibib abs hitstr

L80  ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2003:777759  HCAPLUS
DOCUMENT NUMBER:          139:276804
TITLE:                    Process for producing heterocyclic aldehyde
INVENTOR(S):              Shiomi, Yasuhiro; Uno, Osamu; Ohta, Akio; Sunakami,
                          Takeshi


Updated Search
```

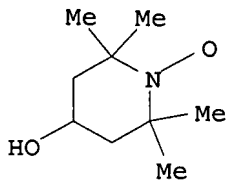
PATENT ASSIGNEE(S): Koei Chemical Co., Ltd., Japan
SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003080575	A1	20031002	WO 2003-JP3568	20030325
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003221048	A1	20031008	AU 2003-221048	20030325
GB 2404190	A	20050126	GB 2004-21452	20030325
US 2005124807	A1	20050609	US 2003-509228	20030325
PRIORITY APPLN. INFO.:			JP 2002-86974 A	20020326
			WO 2003-JP3568 W	20030325

OTHER SOURCE(S): MARPAT 139:276804

AB The patent relates to a process in which a heterocyclic alc. is oxidized to produce a heterocyclic aldehyde with high selectivity in high yield. The process comprises reacting a heterocyclic compound having per mol. at least one hydroxymethyl group bonded to a carbon atom of the heterocycle with a hypohalogenous acid salt in the presence of a base to oxidize the hydroxymethyl group to thereby produce the corresponding heterocyclic aldehyde, wherein the reaction is conducted in the presence of a 2,2,6,6-tetramethylpiperidin-1-oxyl derivative having per mol. two or more 2,2,6,6-tetramethylpiperidin-1-oxyl-4-yl groups. Thus, 3-pyridine-methanol was oxidized by sodium hypochlorite in presence of an oligomer derivative obtained from Chimassorb 944LD with hydrogen peroxide and generated 3-pyridinecarbaldehyde (90.1%) and nicotinic acid (3.4%).

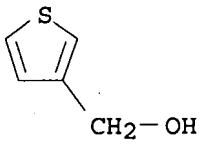
IT 2226-96-2DP, 4-Hydroxy-2,2,6,6-tetramethylpiperidine-N-oxy, reaction product with poly(2-isocyanatoethyl methacrylate)
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(in preparation of heterocyclic aldehyde)
RN 2226-96-2 HCAPLUS
CN 1-Piperidinyloxy, 4-hydroxy-2,2,6,6-tetramethyl- (CA INDEX NAME)



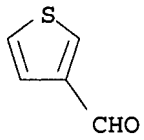
IT 71637-34-8, 3-Thiophenemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of heterocyclic aldehyde)
RN 71637-34-8 HCAPLUS

Updated Search

CN 3-Thiophenemethanol (CA INDEX NAME)



IT 498-62-4P, 3-Thiophenecarbaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of heterocyclic aldehyde)
RN 498-62-4 HCAPLUS
CN 3-Thiophenecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> file caold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	7.87	2358.28

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.78	-24.18

FILE 'CAOLD' ENTERED AT 17:05:33 ON 11 OCT 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> d his

(FILE 'HOME' ENTERED AT 16:12:38 ON 11 OCT 2007)

Updated Search

```
     FILE 'REGISTRY' ENTERED AT 16:13:27 ON 11 OCT 2007
                  E UNDECANOL/CN
L1             2 S E3

     FILE 'REGISTRY' ENTERED AT 16:21:06 ON 11 OCT 2007
L2                STRUCTURE UPLOADED
L3             9 S L2
L4                STRUCTURE UPLOADED
L5             4 S L4
L6                STRUCTURE UPLOADED
L7            13 S L6
L8          1553 S L6 FULL

     FILE 'HCAPLUS' ENTERED AT 16:26:51 ON 11 OCT 2007
L9          1262 S L8/PREP

     FILE 'REGISTRY' ENTERED AT 16:27:02 ON 11 OCT 2007
L10               STRUCTURE UPLOADED
L11           50 S L10
L12         3368 S L10 FULL

     FILE 'HCAPLUS' ENTERED AT 16:28:36 ON 11 OCT 2007
L13         2593 S L12/RCT
L14          470 S L13 AND L9

     FILE 'REGISTRY' ENTERED AT 16:29:01 ON 11 OCT 2007
L15               STRUCTURE UPLOADED
L16           50 S L15
L17         8707 S L15 FULL

     FILE 'HCAPLUS' ENTERED AT 16:31:15 ON 11 OCT 2007
L18        10014 S L17
L19            3 S L18 AND L14

     FILE 'REGISTRY' ENTERED AT 16:31:58 ON 11 OCT 2007

     FILE 'CAOLD' ENTERED AT 16:32:00 ON 11 OCT 2007
L20            0 S L8 AND L12 AND L17

     FILE 'REGISTRY' ENTERED AT 16:33:28 ON 11 OCT 2007
L21               STRUCTURE UPLOADED
L22            6 S L21
L23            6 S L22
L24         1936 S L22 FULL

     FILE 'HCAPLUS' ENTERED AT 16:35:35 ON 11 OCT 2007
L25         1504 S L24/PREP

     FILE 'REGISTRY' ENTERED AT 16:35:41 ON 11 OCT 2007
L26               STRUCTURE UPLOADED
L27           32 S L26
L28         6553 S L26 FULL

     FILE 'HCAPLUS' ENTERED AT 16:37:09 ON 11 OCT 2007
L29         2704 S L28/RCT
L30          451 S L29 AND L25
L31          451 S L24 AND L30
L32           16 S L30 AND L17
L33            1 S L32 AND SHIOMI, Y?/AU
L34            1 S L32 AND UNO, O?/AU
```

Updated Search

```
L35             0 S L34 NOT L33
L36            15 S L32 NOT L33
L37             0 S L36 AND OHTA, A?/AU
L38             0 S L36 AND SUNAKAMI, T?/AU

     FILE 'CAOLD' ENTERED AT 16:40:35 ON 11 OCT 2007
L39             0 S L28 AND L17

     FILE 'REGISTRY' ENTERED AT 16:42:21 ON 11 OCT 2007
L40               STRUCTURE UPLOADED
L41            11 S L40
L42          2565 S L40 FULL

     FILE 'HCAPLUS' ENTERED AT 16:43:51 ON 11 OCT 2007
L43          1369 S L42/RCT

     FILE 'REGISTRY' ENTERED AT 16:43:58 ON 11 OCT 2007
L44               STRUCTURE UPLOADED
L45             7 S L44
L46          1282 S L44 FULL

     FILE 'HCAPLUS' ENTERED AT 16:45:12 ON 11 OCT 2007
L47          1170 S L46/PREP
L48             2 S L47 AND L43 AND L17

     FILE 'CAOLD' ENTERED AT 16:45:42 ON 11 OCT 2007
L49             0 S L46 AND L42 AND L17

     FILE 'CASREACT' ENTERED AT 16:47:37 ON 11 OCT 2007
L50               STRUCTURE UPLOADED
L51             0 S L50
L52             0 S L50 FULL
L53               STRUCTURE UPLOADED
L54             0 S L53
L55             0 S L53 FULL

     FILE 'REGISTRY' ENTERED AT 16:56:44 ON 11 OCT 2007
L56               STRUCTURE UPLOADED
L57             7 S L56
L58               STRUCTURE UPLOADED
L59            25 S L58
L60          3417 S L58 FULL

     FILE 'HCAPLUS' ENTERED AT 16:59:27 ON 11 OCT 2007
L61          2159 S L60/PREP
L62            11 S L61 AND L17

     FILE 'REGISTRY' ENTERED AT 16:59:46 ON 11 OCT 2007
L63               STRUCTURE UPLOADED
L64             8 S L63
L65           976 S L63 FULL

     FILE 'HCAPLUS' ENTERED AT 17:00:57 ON 11 OCT 2007
L66           985 S L65/RCT
L67             9 S L66 AND L62
L68             0 S L67 AND SHIOMI, Y?/AU
L69             0 S L67 AND UNO, O?/AU
L70             0 S L67 AND OHTA, A?/AU
L71             0 S L67 AND SUNAKAMI, T?/AU

     FILE 'CAOLD' ENTERED AT 17:01:52 ON 11 OCT 2007
```

Updated Search

```
L72             0 S L65 AND L60 AND L17

     FILE 'REGISTRY' ENTERED AT 17:02:43 ON 11 OCT 2007
L73               STRUCTURE UPLOADED
L74             2 S L73
L75           500 S L73 FULL

     FILE 'HCAPLUS' ENTERED AT 17:03:45 ON 11 OCT 2007
L76           541 S L75/RCT

     FILE 'REGISTRY' ENTERED AT 17:03:53 ON 11 OCT 2007
L77               STRUCTURE UPLOADED
L78           712 S L77 FULL

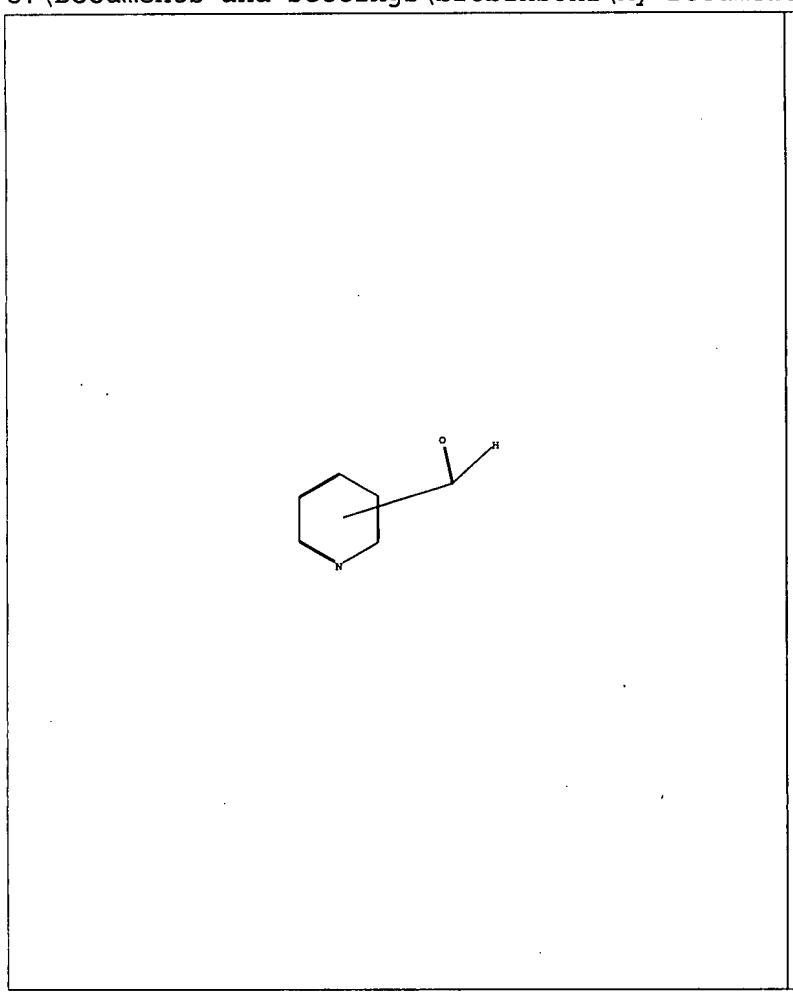
     FILE 'HCAPLUS' ENTERED AT 17:05:07 ON 11 OCT 2007
L79           557 S L78/PREP
L80             1 S L79 AND L76 AND L17

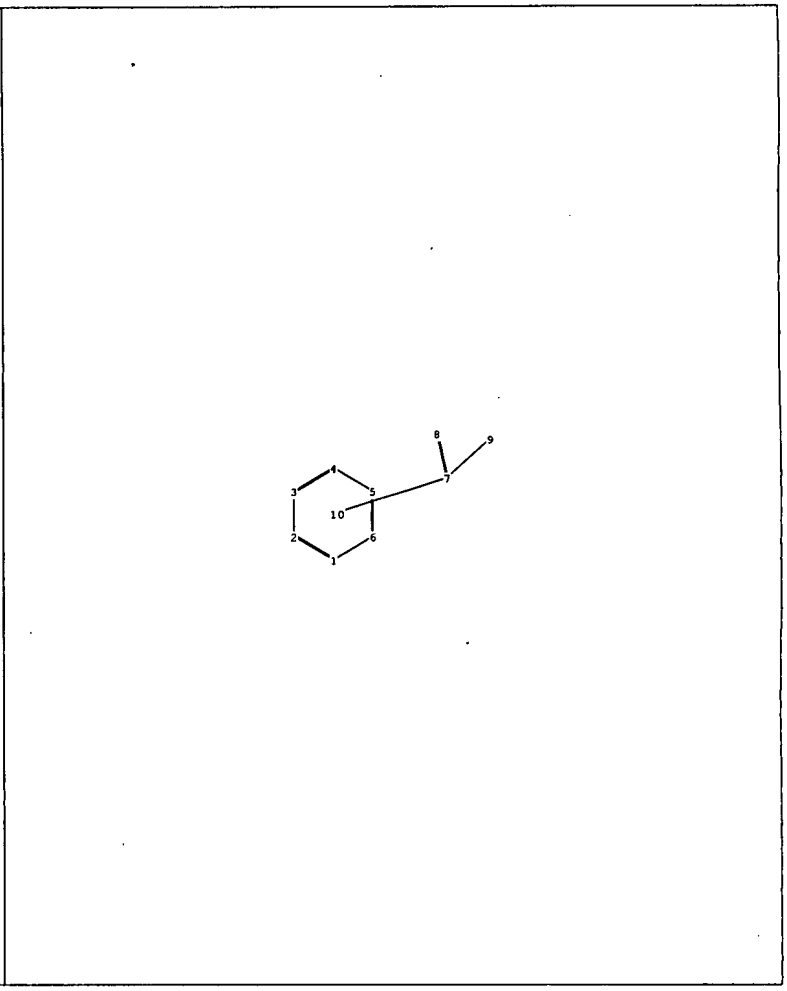
     FILE 'CAOLD' ENTERED AT 17:05:33 ON 11 OCT 2007

=> s l78 and l75 and l17
             44 L78
              9 L75
             82 L17
L81           0 L78 AND L75 AND L17
```

Updated Search

C:\Documents and Settings\brobinson1\My Documents\stnweb\Queries\aserwer.str

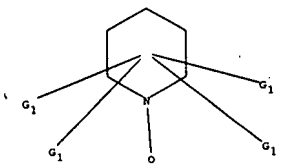


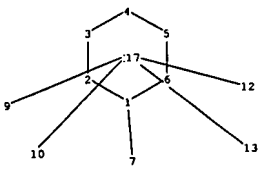


chain nodes :
7 8 9
ring nodes :
1 2 3 4 5 6
chain bonds :
7-8 7-9
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
7-8
exact bonds :
7-9
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 :

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:Atom

C:\Documents and Settings\brobinson1\My Documents\stnweb\Queries\asdfnjghut.str





chain nodes :
7 9 10 12 13
ring nodes :
1 2 3 4 5 6
chain bonds :
1-7
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
1-2 1-6 1-7 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 :

G1:CH3,Et

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 9:CLASS 10:CLASS 12:CLASS
13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1612bxr

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page for STN Seminar Schedule - N. America
NEWS 2	JUL 02	LMEDLINE coverage updated
NEWS 3	JUL 02	SCISEARCH enhanced with complete author names
NEWS 4	JUL 02	CHEMCATS accession numbers revised
NEWS 5	JUL 02	CA/CAplus enhanced with utility model patents from China
NEWS 6	JUL 16	CAplus enhanced with French and German abstracts
NEWS 7	JUL 18	CA/CAplus patent coverage enhanced
NEWS 8	JUL 26	USPATFULL/USPAT2 enhanced with IPC reclassification
NEWS 9	JUL 30	USGENE now available on STN
NEWS 10	AUG 06	CAS REGISTRY enhanced with new experimental property tags
NEWS 11	AUG 06	BEILSTEIN updated with new compounds
NEWS 12	AUG 06	FSTA enhanced with new thesaurus edition
NEWS 13	AUG 13	CA/CAplus enhanced with additional kind codes for granted patents
NEWS 14	AUG 20	CA/CAplus enhanced with CAS indexing in pre-1907 records
NEWS 15	AUG 27	Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB
NEWS 16	AUG 27	USPATOLD now available on STN
NEWS 17	AUG 28	CAS REGISTRY enhanced with additional experimental spectral property data
NEWS 18	SEP 07	STN AnaVist, Version 2.0, now available with Derwent World Patents Index
NEWS 19	SEP 13	FORIS renamed to SOFIS
NEWS 20	SEP 13	INPADOCDB enhanced with monthly SDI frequency
NEWS 21	SEP 17	CA/CAplus enhanced with printed CA page images from 1967-1998
NEWS 22	SEP 17	CAplus coverage extended to include traditional medicine patents
NEWS 23	SEP 24	EMBASE, EMBAL, and LEMBASE reloaded with enhancements

NEWS EXPRESS 19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

Updated Search

* * * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 01:10:45 ON 27 SEP 2007

=> file reg
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	1.47	1.47

FILE 'REGISTRY' ENTERED AT 01:14:37 ON 27 SEP 2007
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STRUCTURE FILE UPDATES: 25 SEP 2007 HIGHEST RN 948051-90-9
DICTIONARY FILE UPDATES: 25 SEP 2007 HIGHEST RN 948051-90-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

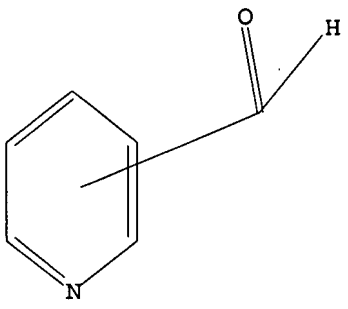
REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\aserwer.str

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

Updated Search

```
=> s l1
SAMPLE SEARCH INITIATED 01:16:33 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -   138594 TO ITERATE

  1.4% PROCESSED     2000 ITERATIONS                                 4 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **INCOMPLETE**
                        BATCH   **INCOMPLETE**
PROJECTED ITERATIONS:      2749881 TO  2793879
PROJECTED ANSWERS:            4545 TO     6541

L2             4 SEA SSS SAM L1

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     1.80       3.27

FILE 'REGISTRY' ENTERED AT 01:17:18 ON 27 SEP 2007
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DICTIONARY FILE UPDATES:  25 SEP 2007  HIGHEST RN 948051-90-9

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TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

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  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> set postings on
SET COMMAND COMPLETED

=> s pyridine and aldehyde
        956939 PYRIDINE
             3 PYRIDINES
        956939 PYRIDINE
                 (PYRIDINE OR PYRIDINES)
        323365 ALDEHYDE
            24 ALDEHYDES
        323365 ALDEHYDE
                 (ALDEHYDE OR ALDEHYDES)
L3       13671 PYRIDINE AND ALDEHYDE

=> s aldehyde?
L4      323365 ALDEHYDE?
```

Updated Search

```
=> s pyridin?
L5     2355547 PYRIDIN?

=> s l4 and l5
L6       19846 L4 AND L5

=> file hcaplus
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                        20.70      23.97

FILE 'HCAPLUS' ENTERED AT 01:18:16 ON 27 SEP 2007
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FILE COVERS 1907 - 27 Sep 2007  VOL 147 ISS 14
FILE LAST UPDATED: 26 Sep 2007  (20070926/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> s l4/prep
TOO MANY TERMS FOR FILE CROSSOVER IN L4
There are limits on the size of an answer set being crossed over from
one file to another.  Enter HELP CROSSOVER at an arrow prompt (=>)
for specific information.

=> s l4
TOO MANY TERMS FOR FILE CROSSOVER IN L4
There are limits on the size of an answer set being crossed over from
one file to another.  Enter HELP CROSSOVER at an arrow prompt (=>)
for specific information.

=> s l4 and l5
TOO MANY TERMS FOR FILE CROSSOVER IN L4
There are limits on the size of an answer set being crossed over from
one file to another.  Enter HELP CROSSOVER at an arrow prompt (=>)
for specific information.

=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         5.20      29.17

FILE 'REGISTRY' ENTERED AT 01:19:20 ON 27 SEP 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.


Updated Search
```

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 25 SEP 2007 HIGHEST RN 948051-90-9
DICTIONARY FILE UPDATES: 25 SEP 2007 HIGHEST RN 948051-90-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> d his

(FILE 'HOME' ENTERED AT 01:10:45 ON 27 SEP 2007)

FILE 'REGISTRY' ENTERED AT 01:14:37 ON 27 SEP 2007
L1 STRUCTURE UPLOADED
L2 4 S L1

FILE 'REGISTRY' ENTERED AT 01:17:18 ON 27 SEP 2007
SET POSTINGS ON
L3 13671 S PYRIDINE AND ALDEHYDE
L4 323365 S ALDEHYDE?
L5 2355547 S PYRIDIN?
L6 19846 S L4 AND L5

FILE 'HCAPLUS' ENTERED AT 01:18:16 ON 27 SEP 2007

FILE 'REGISTRY' ENTERED AT 01:19:20 ON 27 SEP 2007

=> set postings on
SET COMMAND COMPLETED

=> s pyridine
956939 PYRIDINE
3 PYRIDINES
L7 956939 PYRIDINE
(PYRIDINE OR PYRIDINES)

=> s aldehyde?
L8 323365 ALDEHYDE?

=> s l7 and l8
L9 13671 L7 AND L8

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	10.80	39.97

Updated Search

```
FILE 'REGISTRY' ENTERED AT 01:20:20 ON 27 SEP 2007
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STRUCTURE FILE UPDATES:   25 SEP 2007  HIGHEST RN 948051-90-9
DICTIONARY FILE UPDATES:  25 SEP 2007  HIGHEST RN 948051-90-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> d his

     (FILE 'HOME' ENTERED AT 01:10:45 ON 27 SEP 2007)

     FILE 'REGISTRY' ENTERED AT 01:14:37 ON 27 SEP 2007
L1             STRUCTURE UPLOADED
L2           4 S L1

     FILE 'REGISTRY' ENTERED AT 01:17:18 ON 27 SEP 2007
               SET POSTINGS ON .
L3       13671 S PYRIDINE AND ALDEHYDE
L4      323365 S ALDEHYDE?
L5     2355547 S PYRIDIN?
L6       19846 S L4 AND L5

     FILE 'HCAPLUS' ENTERED AT 01:18:16 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:19:20 ON 27 SEP 2007
               SET POSTINGS ON
L7      956939 S PYRIDINE
L8      323365 S ALDEHYDE?
L9       13671 S L7 AND L8

     FILE 'REGISTRY' ENTERED AT 01:20:20 ON 27 SEP 2007

=> file reg
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                 2.25      42.22

FILE 'REGISTRY' ENTERED AT 01:23:02 ON 27 SEP 2007
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```

Updated Search

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STRUCTURE FILE UPDATES: 25 SEP 2007 HIGHEST RN 948051-90-9
DICTIONARY FILE UPDATES: 25 SEP 2007 HIGHEST RN 948051-90-9

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TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

```
=> s l3
         956939 PYRIDINE
              3 PYRIDINES
         956939 PYRIDINE
                   (PYRIDINE OR PYRIDINES)
         323365 ALDEHYDE
             24 ALDEHYDES
         323365 ALDEHYDE
                   (ALDEHYDE OR ALDEHYDES)
L10       13671 PYRIDINE AND ALDEHYDE

=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    10.35      52.57

FILE 'HCAPLUS' ENTERED AT 01:23:11 ON 27 SEP 2007
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```


FILE COVERS 1907 - 27 Sep 2007 VOL 147 ISS 14
FILE LAST UPDATED: 26 Sep 2007 (20070926/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> d his
```

Updated Search

```
     (FILE 'HOME' ENTERED AT 01:10:45 ON 27 SEP 2007)

     FILE 'REGISTRY' ENTERED AT 01:14:37 ON 27 SEP 2007
L1             STRUCTURE UPLOADED
L2           4 S L1

     FILE 'REGISTRY' ENTERED AT 01:17:18 ON 27 SEP 2007
               SET POSTINGS ON
L3       13671 S PYRIDINE AND ALDEHYDE
L4      323365 S ALDEHYDE?
L5     2355547 S PYRIDIN?
L6       19846 S L4 AND L5

     FILE 'HCAPLUS' ENTERED AT 01:18:16 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:19:20 ON 27 SEP 2007
               SET POSTINGS ON
L7      956939 S PYRIDINE
L8      323365 S ALDEHYDE?
L9       13671 S L7 AND L8

     FILE 'REGISTRY' ENTERED AT 01:20:20 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:23:02 ON 27 SEP 2007
L10      13671 S L3

     FILE 'HCAPLUS' ENTERED AT 01:23:11 ON 27 SEP 2007

=> s l3
L11      26335 L3

=> s l3/prep
         26335 L3
       4466967 PREP/RL
L12       6285 L3/PREP
                (L3 (L) PREP/RL)

=> file reg
COST IN U.S. DOLLARS                        SINCE FILE      TOTAL
                                               ENTRY    SESSION
FULL ESTIMATED COST                             2.60      55.17

FILE 'REGISTRY' ENTERED AT 01:23:39 ON 27 SEP 2007
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STRUCTURE FILE UPDATES:   25 SEP 2007  HIGHEST RN 948051-90-9
DICTIONARY FILE UPDATES:  25 SEP 2007  HIGHEST RN 948051-90-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.
```

Updated Search

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> set postings on
SET COMMAND COMPLETED

=> s hydroxymethyl
L13 297990 HYDROXYMETHYL

=> s pyridin?
L14 2355547 PYRIDIN?
75% OF LIMIT FOR TOTAL ANSWERS REACHED

=> s pyridine
956939 PYRIDINE
3 PYRIDINES
L15 956939 PYRIDINE
(PYRIDINE OR PYRIDINES)
95% OF LIMIT FOR TOTAL ANSWERS REACHED

=> s l15 and l13
L16 6409 L15 AND L13

=> file hcaplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	16.20	71.37

FILE 'HCAPLUS' ENTERED AT 01:25:17 ON 27 SEP 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 27 Sep 2007 VOL 147 ISS 14
FILE LAST UPDATED: 26 Sep 2007 (20070926/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l16/rct
21483 L16
3018956 RCT/RL
L17 5405 L16/RCT
(L16 (L) RCT/RL)

Updated Search

```
=> d his

     (FILE 'HOME' ENTERED AT 01:10:45 ON 27 SEP 2007)

     FILE 'REGISTRY' ENTERED AT 01:14:37 ON 27 SEP 2007
L1             STRUCTURE UPLOADED
L2           4 S L1

     FILE 'REGISTRY' ENTERED AT 01:17:18 ON 27 SEP 2007
               SET POSTINGS ON
L3       13671 S PYRIDINE AND ALDEHYDE
L4      323365 S ALDEHYDE?
L5     2355547 S PYRIDIN?
L6       19846 S L4 AND L5

     FILE 'HCAPLUS' ENTERED AT 01:18:16 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:19:20 ON 27 SEP 2007
               SET POSTINGS ON
L7      956939 S PYRIDINE
L8      323365 S ALDEHYDE?
L9       13671 S L7 AND L8

     FILE 'REGISTRY' ENTERED AT 01:20:20 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:23:02 ON 27 SEP 2007
L10      13671 S L3

     FILE 'HCAPLUS' ENTERED AT 01:23:11 ON 27 SEP 2007
L11      26335 S L3
L12       6285 S L3/PREP

     FILE 'REGISTRY' ENTERED AT 01:23:39 ON 27 SEP 2007
               SET POSTINGS ON
L13     297990 S HYDROXYMETHYL
L14    2355547 S PYRIDIN?
L15     956939 S PYRIDINE
L16       6409 S L15 AND L13

     FILE 'HCAPLUS' ENTERED AT 01:25:17 ON 27 SEP 2007
L17       5405 S L16/RCT

=> s l17 and l12
L18        874 L17 AND L12

=> s l18 and hypohalogenous? () salt
            53 HYPOHALOGENOUS?
        817819 SALT
        626167 SALTS
       1210218 SALT
                 (SALT OR SALTS)
             1 HYPOHALOGENOUS? (W) SALT
L19          0 L18 AND HYPOHALOGENOUS? (W) SALT

=> s l18 and hypohalogen?
           175 HYPOHALOGEN?
L20          1 L18 AND HYPOHALOGEN?

=> d l20, ibib abs hitstr, 1
```

Updated Search

L20 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:777759 HCAPLUS
DOCUMENT NUMBER: 139:276804
TITLE: Process for producing heterocyclic aldehyde
INVENTOR(S): Shiomi, Yasuhiro; Uno, Osamu; Ohta, Akio; Sunakami, Takeshi
PATENT ASSIGNEE(S): Koei Chemical Co., Ltd., Japan
SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

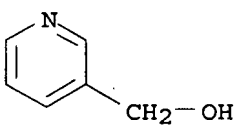
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003080575	A1	20031002	WO 2003-JP3568	20030325
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003221048	A1	20031008	AU 2003-221048	20030325
GB 2404190	A	20050126	GB 2004-21452	20030325
US 2005124807	A1	20050609	US 2003-509228	20030325
PRIORITY APPLN. INFO.:			JP 2002-86974 A	20020326
			WO 2003-JP3568 W	20030325

OTHER SOURCE(S): MARPAT 139:276804

AB The patent relates to a process in which a heterocyclic alc. is oxidized to produce a heterocyclic aldehyde with high selectivity in high yield. The process comprises reacting a heterocyclic compound having per mol. at least one hydroxymethyl group bonded to a carbon atom of the heterocycle with a hypohalogenous acid salt in the presence of a base to oxidize the hydroxymethyl group to thereby produce the corresponding heterocyclic aldehyde, wherein the reaction is conducted in the presence of a 2,2,6,6-tetramethylpiperidin-1-oxyl derivative having per mol. two or more 2,2,6,6-tetramethylpiperidin-1-oxyl-4-yl groups. Thus, 3-pyridine-methanol was oxidized by sodium hypochlorite in presence of an oligomer derivative obtained from Chimassorb 944LD with hydrogen peroxide and generated 3-pyridinecarbaldehyde (90.1%) and nicotinic acid (3.4%).

IT 100-55-0, 3-Pyridine-methanol 34107-46-5, 6-Methyl-3-pyridine-methanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of heterocyclic aldehyde)

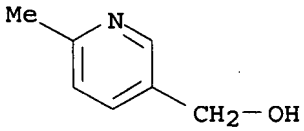
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



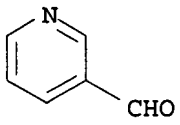
RN 34107-46-5 HCAPLUS

Updated Search

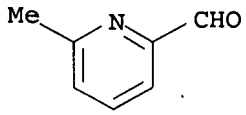
CN 3-Pyridinemethanol, 6-methyl- (CA INDEX NAME)



IT 500-22-1P, 3-Pyridinecarbaldehyde 1122-72-1P,
6-Methyl-2-pyridinecarbaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of heterocyclic aldehyde)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



RN 1122-72-1 HCAPLUS
CN 2-Pyridinecarboxaldehyde, 6-methyl- (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> file caold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	13.07	84.44
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.78	-0.78

FILE 'CAOLD' ENTERED AT 01:26:53 ON 27 SEP 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

Updated Search

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

```
=> d his

     (FILE 'HOME' ENTERED AT 01:10:45 ON 27 SEP 2007)

     FILE 'REGISTRY' ENTERED AT 01:14:37 ON 27 SEP 2007
L1             STRUCTURE UPLOADED
L2           4 S L1

     FILE 'REGISTRY' ENTERED AT 01:17:18 ON 27 SEP 2007
               SET POSTINGS ON
L3       13671 S PYRIDINE AND ALDEHYDE
L4      323365 S ALDEHYDE?
L5     2355547 S PYRIDIN?
L6       19846 S L4 AND L5

     FILE 'HCAPLUS' ENTERED AT 01:18:16 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:19:20 ON 27 SEP 2007
               SET POSTINGS ON
L7      956939 S PYRIDINE
L8      323365 S ALDEHYDE?
L9       13671 S L7 AND L8

     FILE 'REGISTRY' ENTERED AT 01:20:20 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:23:02 ON 27 SEP 2007
L10      13671 S L3

     FILE 'HCAPLUS' ENTERED AT 01:23:11 ON 27 SEP 2007
L11      26335 S L3
L12       6285 S L3/PREP

     FILE 'REGISTRY' ENTERED AT 01:23:39 ON 27 SEP 2007
               SET POSTINGS ON
L13     297990 S HYDROXYMETHYL
L14    2355547 S PYRIDIN?
L15     956939 S PYRIDINE
L16       6409 S L15 AND L13

     FILE 'HCAPLUS' ENTERED AT 01:25:17 ON 27 SEP 2007
L17       5405 S L16/RCT
L18        874 S L17 AND L12
L19          0 S L18 AND HYPOHALOGENOUS? () SALT
L20          1 S L18 AND HYPOHALOGEN?

     FILE 'CAOLD' ENTERED AT 01:26:53 ON 27 SEP 2007

=> s l16 and l3
           408 L16
           741 L3
L21         78 L16 AND L3

=> s l21 and hypohalogenous? () salt?
             2 HYPOHALOGENOUS?


Updated Search
```

```
         45526 SALT?
             0 HYPOHALOGENOUS? (W) SALT?
L22          0 L21 AND HYPOHALOGENOUS? (W) SALT?

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     6.09      90.53

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -0.78

FILE 'REGISTRY' ENTERED AT 01:29:38 ON 27 SEP 2007
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STRUCTURE FILE UPDATES:   25 SEP 2007  HIGHEST RN 948051-90-9
DICTIONARY FILE UPDATES:  25 SEP 2007  HIGHEST RN 948051-90-9

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REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\asdfnjghut.str

L23     STRUCTURE UPLOADED

=> d l23
L23 HAS NO ANSWERS
L23             STR
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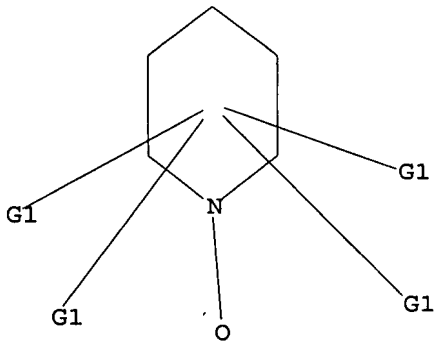

G1 Me,Et

Updated Search

Structure attributes must be viewed using STN Express query preparation.

```
=> s l23
SAMPLE SEARCH INITIATED 01:32:17 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -     3702 TO ITERATE

 54.0% PROCESSED     2000 ITERATIONS                                  50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:        70391 TO    77689
PROJECTED ANSWERS:            7723 TO    10267

L24          50 SEA SSS SAM L23

=> s l23 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 171.65 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 01:32:21 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -    74284 TO ITERATE

100.0% PROCESSED    74284 ITERATIONS                                 8671 ANSWERS
SEARCH TIME: 00.00.01

L25        8671 SEA SSS FUL L23

=> d his

     (FILE 'HOME' ENTERED AT 01:10:45 ON 27 SEP 2007)

     FILE 'REGISTRY' ENTERED AT 01:14:37 ON 27 SEP 2007
L1              STRUCTURE UPLOADED
L2            4 S L1

     FILE 'REGISTRY' ENTERED AT 01:17:18 ON 27 SEP 2007
                SET POSTINGS ON
L3        13671 S PYRIDINE AND ALDEHYDE
L4       323365 S ALDEHYDE?
L5      2355547 S PYRIDIN?
L6        19846 S L4 AND L5

     FILE 'HCAPLUS' ENTERED AT 01:18:16 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:19:20 ON 27 SEP 2007
                SET POSTINGS ON
L7       956939 S PYRIDINE
L8       323365 S ALDEHYDE?
L9        13671 S L7 AND L8

     FILE 'REGISTRY' ENTERED AT 01:20:20 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:23:02 ON 27 SEP 2007
L10       13671 S L3

     FILE 'HCAPLUS' ENTERED AT 01:23:11 ON 27 SEP 2007
L11       26335 S L3
L12        6285 S L3/PREP
```

Updated Search

```
     FILE 'REGISTRY' ENTERED AT 01:23:39 ON 27 SEP 2007
                SET POSTINGS ON
L13       297990 S HYDROXYMETHYL
L14      2355547 S PYRIDIN?
L15       956939 S PYRIDINE
L16         6409 S L15 AND L13

     FILE 'HCAPLUS' ENTERED AT 01:25:17 ON 27 SEP 2007
L17         5405 S L16/RCT
L18          874 S L17 AND L12
L19            0 S L18 AND HYPOHALOGENOUS? () SALT
L20            1 S L18 AND HYPOHALOGEN?

     FILE 'CAOLD' ENTERED AT 01:26:53 ON 27 SEP 2007
L21           78 S L16 AND L3
L22            0 S L21 AND HYPOHALOGENOUS? () SALT?

     FILE 'REGISTRY' ENTERED AT 01:29:38 ON 27 SEP 2007
L23               STRUCTURE UPLOADED
L24           50 S L23
L25         8671 S L23 FULL

=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   173.90     264.43

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -0.78

FILE 'HCAPLUS' ENTERED AT 01:32:26 ON 27 SEP 2007
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FILE COVERS 1907 - 27 Sep 2007  VOL 147 ISS 14
FILE LAST UPDATED: 26 Sep 2007  (20070926/ED)

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 substance identification.

=> d his

     (FILE 'HOME' ENTERED AT 01:10:45 ON 27 SEP 2007)

     FILE 'REGISTRY' ENTERED AT 01:14:37 ON 27 SEP 2007


Updated Search
```

```
L1              STRUCTURE UPLOADED
L2            4 S L1

     FILE 'REGISTRY' ENTERED AT 01:17:18 ON 27 SEP 2007
                SET POSTINGS ON
L3        13671 S PYRIDINE AND ALDEHYDE
L4       323365 S ALDEHYDE?
L5      2355547 S PYRIDIN?
L6        19846 S L4 AND L5

     FILE 'HCAPLUS' ENTERED AT 01:18:16 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:19:20 ON 27 SEP 2007
                SET POSTINGS ON
L7       956939 S PYRIDINE
L8       323365 S ALDEHYDE?
L9        13671 S L7 AND L8

     FILE 'REGISTRY' ENTERED AT 01:20:20 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:23:02 ON 27 SEP 2007
L10       13671 S L3

     FILE 'HCAPLUS' ENTERED AT 01:23:11 ON 27 SEP 2007
L11       26335 S L3
L12        6285 S L3/PREP

     FILE 'REGISTRY' ENTERED AT 01:23:39 ON 27 SEP 2007
                SET POSTINGS ON
L13      297990 S HYDROXYMETHYL
L14     2355547 S PYRIDIN?
L15      956939 S PYRIDINE
L16        6409 S L15 AND L13

     FILE 'HCAPLUS' ENTERED AT 01:25:17 ON 27 SEP 2007
L17        5405 S L16/RCT
L18         874 S L17 AND L12
L19           0 S L18 AND HYPOHALOGENOUS? () SALT
L20           1 S L18 AND HYPOHALOGEN?

     FILE 'CAOLD' ENTERED AT 01:26:53 ON 27 SEP 2007
L21          78 S L16 AND L3
L22           0 S L21 AND HYPOHALOGENOUS? () SALT?

     FILE 'REGISTRY' ENTERED AT 01:29:38 ON 27 SEP 2007
L23             STRUCTURE UPLOADED
L24          50 S L23
L25        8671 S L23 FULL

     FILE 'HCAPLUS' ENTERED AT 01:32:26 ON 27 SEP 2007

=> s l25
L26        9992 L25

=> s l26 and l18
L27          20 L26 AND L18

=> file reg
COST IN U.S. DOLLARS                        SINCE FILE      TOTAL
                                               ENTRY     SESSION
FULL ESTIMATED COST                             5.20      269.63
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Updated Search

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)        SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                    0.00      -0.78

FILE 'REGISTRY' ENTERED AT 01:33:21 ON 27 SEP 2007
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STRUCTURE FILE UPDATES:   25 SEP 2007  HIGHEST RN 948051-90-9
DICTIONARY FILE UPDATES:  25 SEP 2007  HIGHEST RN 948051-90-9

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TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> set postings on
SET COMMAND COMPLETED

=> s hypohalogenous salt
             0 HYPOHALOGENOUS
        742306 SALT
          4820 SALTS
        746802 SALT
                  (SALT OR SALTS)
L28          0 HYPOHALOGENOUS SALT
                  (HYPOHALOGENOUS(W)SALT)

=> s hypohalogen?
L29          0 HYPOHALOGEN?

=> s halogenous salt
             0 HALOGENOUS
        742306 SALT
          4820 SALTS
        746802 SALT
                  (SALT OR SALTS)
L30          0 HALOGENOUS SALT
                  (HALOGENOUS(W)SALT)

=> s salt
        742306 SALT
          4820 SALTS
SYSTEM LIMITS EXCEEDED - SEARCH ENDED
The search profile you entered was too complex or gave too many
answers.  Simplify or subdivide the query and try again.  If you have
exceeded the answer limit, enter DELETE HISTORY at an arrow prompt


Updated Search
```

(=>) to remove all previous answers sets and begin at L1. Use the SAVE command to store any important profiles or answer sets before using DELETE HISTORY.

```
=> s halogenous s
             0 HALOGENOUS
       2508332 S
L31          0 HALOGENOUS S
                 (HALOGENOUS(W)S)

=> s halogenous
             0 HALOGENOUS
L32          0 HALOGENOUS

=> s halogen?
L33        142 HALOGEN?

=> s l33 and salt
        742306 SALT
          4820 SALTS
        746802 SALT
                 (SALT OR SALTS)
L34          0 L33 AND SALT

=> d his

     (FILE 'HOME' ENTERED AT 01:10:45 ON 27 SEP 2007)

     FILE 'REGISTRY' ENTERED AT 01:14:37 ON 27 SEP 2007
L1               STRUCTURE UPLOADED
L2             4 S L1

     FILE 'REGISTRY' ENTERED AT 01:17:18 ON 27 SEP 2007
                 SET POSTINGS ON
L3         13671 S PYRIDINE AND ALDEHYDE
L4        323365 S ALDEHYDE?
L5       2355547 S PYRIDIN?
L6         19846 S L4 AND L5

     FILE 'HCAPLUS' ENTERED AT 01:18:16 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:19:20 ON 27 SEP 2007
                 SET POSTINGS ON
L7        956939 S PYRIDINE
L8        323365 S ALDEHYDE?
L9         13671 S L7 AND L8

     FILE 'REGISTRY' ENTERED AT 01:20:20 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:23:02 ON 27 SEP 2007
L10        13671 S L3

     FILE 'HCAPLUS' ENTERED AT 01:23:11 ON 27 SEP 2007
L11        26335 S L3
L12         6285 S L3/PREP

     FILE 'REGISTRY' ENTERED AT 01:23:39 ON 27 SEP 2007
                 SET POSTINGS ON
L13       297990 S HYDROXYMETHYL
L14      2355547 S PYRIDIN?
L15       956939 S PYRIDINE
```

Updated Search

```
L16         6409 S L15 AND L13

     FILE 'HCAPLUS' ENTERED AT 01:25:17 ON 27 SEP 2007
L17         5405 S L16/RCT
L18          874 S L17 AND L12
L19            0 S L18 AND HYPOHALOGENOUS? () SALT
L20            1 S L18 AND HYPOHALOGEN?

     FILE 'CAOLD' ENTERED AT 01:26:53 ON 27 SEP 2007
L21           78 S L16 AND L3
L22            0 S L21 AND HYPOHALOGENOUS? () SALT?

     FILE 'REGISTRY' ENTERED AT 01:29:38 ON 27 SEP 2007
L23               STRUCTURE UPLOADED
L24           50 S L23
L25         8671 S L23 FULL

     FILE 'HCAPLUS' ENTERED AT 01:32:26 ON 27 SEP 2007
L26         9992 S L25
L27           20 S L26 AND L18

     FILE 'REGISTRY' ENTERED AT 01:33:21 ON 27 SEP 2007
                SET POSTINGS ON
L28            0 S HYPOHALOGENOUS SALT
L29            0 S HYPOHALOGEN?
L30            0 S HALOGENOUS SALT
L31            0 S HALOGENOUS S
L32            0 S HALOGENOUS
L33          142 S HALOGEN?
L34            0 S L33 AND SALT

=> d l27,ibib abs hitstr, 1-20
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:n


=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    50.85     320.48

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -0.78

FILE 'HCAPLUS' ENTERED AT 01:34:57 ON 27 SEP 2007
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FILE COVERS 1907 - 27 Sep 2007 VOL 147 ISS 14

Updated Search

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FILE LAST UPDATED: 26 Sep 2007  (20070926/ED)

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 substance identification.

=> d his

     (FILE 'HOME' ENTERED AT 01:10:45 ON 27 SEP 2007)

     FILE 'REGISTRY' ENTERED AT 01:14:37 ON 27 SEP 2007
L1              STRUCTURE UPLOADED
L2            4 S L1

     FILE 'REGISTRY' ENTERED AT 01:17:18 ON 27 SEP 2007
                SET POSTINGS ON
L3        13671 S PYRIDINE AND ALDEHYDE
L4       323365 S ALDEHYDE?
L5      2355547 S PYRIDIN?
L6        19846 S L4 AND L5

     FILE 'HCAPLUS' ENTERED AT 01:18:16 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:19:20 ON 27 SEP 2007
                SET POSTINGS ON
L7       956939 S PYRIDINE
L8       323365 S ALDEHYDE?
L9        13671 S L7 AND L8

     FILE 'REGISTRY' ENTERED AT 01:20:20 ON 27 SEP 2007

     FILE 'REGISTRY' ENTERED AT 01:23:02 ON 27 SEP 2007
L10       13671 S L3

     FILE 'HCAPLUS' ENTERED AT 01:23:11 ON 27 SEP 2007
L11       26335 S L3
L12        6285 S L3/PREP

     FILE 'REGISTRY' ENTERED AT 01:23:39 ON 27 SEP 2007
                SET POSTINGS ON
L13      297990 S HYDROXYMETHYL
L14     2355547 S PYRIDIN?
L15      956939 S PYRIDINE
L16        6409 S L15 AND L13

     FILE 'HCAPLUS' ENTERED AT 01:25:17 ON 27 SEP 2007
L17        5405 S L16/RCT
L18         874 S L17 AND L12
L19           0 S L18 AND HYPOHALOGENOUS? () SALT
L20           1 S L18 AND HYPOHALOGEN?

     FILE 'CAOLD' ENTERED AT 01:26:53 ON 27 SEP 2007
L21          78 S L16 AND L3
L22           0 S L21 AND HYPOHALOGENOUS? () SALT?

     FILE 'REGISTRY' ENTERED AT 01:29:38 ON 27 SEP 2007
L23             STRUCTURE UPLOADED
L24          50 S L23
L25        8671 S L23 FULL



Updated Search
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     FILE 'HCAPLUS' ENTERED AT 01:32:26 ON 27 SEP 2007
L26         9992 S L25
L27           20 S L26 AND L18

     FILE 'REGISTRY' ENTERED AT 01:33:21 ON 27 SEP 2007
                SET POSTINGS ON
L28            0 S HYPOHALOGENOUS SALT
L29            0 S HYPOHALOGEN?
L30            0 S HALOGENOUS SALT
L31            0 S HALOGENOUS S
L32            0 S HALOGENOUS
L33          142 S HALOGEN?
L34            0 S L33 AND SALT

     FILE 'HCAPLUS' ENTERED AT 01:34:57 ON 27 SEP 2007

=> d l27, ibib abs hitstr, 1-20

L27  ANSWER 1 OF 20  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2007:440534  HCAPLUS
DOCUMENT NUMBER:          147:72448
TITLE:                    Efficient NO equivalent for activation of molecular
                          oxygen and its applications in transition-metal-free
                          catalytic aerobic alcohol oxidation
AUTHOR(S):                Xie, Yi; Mo, Weimin; Xu, Dong; Shen, Zhenlu; Sun, Nan;
                          Hu, Baoxiang; Hu, Xinquan
CORPORATE SOURCE:         College of Chemical Engineering and Material Sciences,
                          Zhejiang University of Technology, Hangzhou, 310014,
                          Peop. Rep. China
SOURCE:                   Journal of Organic Chemistry (2007), 72(11), 4288-4291
                          CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER:                American Chemical Society
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
OTHER SOURCE(S):          CASREACT 147:72448
AB   Tert-Bu nitrite (TBN) was identified as an efficient NO equivalent for the
     activation of mol. oxygen.  The unique property of TBN enabled
     TEMPO-catalyzed aerobic alc. oxidation to be performed in high-volume
     efficiency.  Up to a 16,000 turnover number was achieved in this
     transition-metal-free aerobic catalytic system.  Under the optimal
     reaction conditions, various alcs. were converted into their corresponding
     carbonyl compds. with TEMPO/HBr/TBN as catalyst.  The newly developed
     method was suitable for the oxidation of solid substrate alcs. with high m.p.
     and/or low solubility under the help of min. solvent to form a slurry.
IT   2564-83-2, TEMPO
     RL: CAT (Catalyst use); USES (Uses)
        (tert-Bu nitrite as nitric oxide equivalent in aerobic alc. oxidation using
        tetramethylpiperidyloxy-hydrogen bromide-tert-Bu nitrite catalyst
        system)
RN   2564-83-2  HCAPLUS
CN   1-Piperidinyloxy, 2,2,6,6-tetramethyl-  (CA INDEX NAME)
```
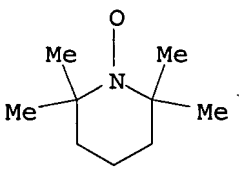
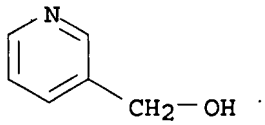
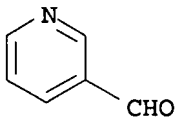



Updated Search

IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(tert-Bu nitrite as nitric oxide equivalent in aerobic alc. oxidation using tetramethylpiperidyloxy-hydrogen bromide-tert-Bu nitrite catalyst system)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(tert-Bu nitrite as nitric oxide equivalent in aerobic alc. oxidation using tetramethylpiperidyloxy-hydrogen bromide-tert-Bu nitrite catalyst system)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)

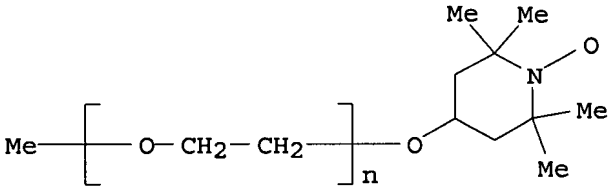


REFERENCE COUNT: 68 THERE ARE 68 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

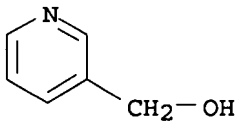
L27 ANSWER 2 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1187826 HCAPLUS
DOCUMENT NUMBER: 146:121623
TITLE: Multipolymer reaction system for selective aerobic alcohol oxidation: simultaneous use of multiple different polymer-supported ligands
AUTHOR(S): Chung, Cecilia Wan Ying; Toy, Patrick H.
CORPORATE SOURCE: Department of Chemistry, The University of Hong Kong, Hong Kong, Peop. Rep. China
SOURCE: Journal of Combinatorial Chemistry (2007), 9(1), 115-120
CODEN: JCCHFF; ISSN: 1520-4766
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A multipolymer reaction system has been developed in which a water-soluble polymer-supported 2,2'-bipyridine group and a similarly immobilized TEMPO derivative are used as ligands for copper to effect the mild and selective aerobic oxidation of primary alcs. in acetonitrile-water solvent. In this reaction system, poly(ethylene glycol) monomethyl ether (mol. weight = 5000 Da) was used as the support for both the 2,2'-bipyridine and TEMPO moieties because of its solubility properties. The use of these functionalized polymers simultaneously in catalytic quantities allows for primary alcs. to be oxidized selectively to the corresponding aldehydes in an environmentally friendly manner. This is the first reported example of using two different polymer-supported ligands together to form an organometallic species capable of catalyzing an organic reaction.

Updated Search

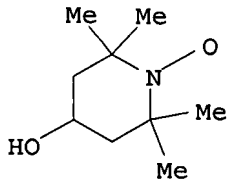
IT 848328-35-8P, 4-Hydroxy-TEMPO
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(aerobic oxidation of alcs. to aldehydes using copper-polymer-supported bipyridine and polymer-supported TEMPO catalyst)
RN 848328-35-8 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[(2,2,6,6-tetramethyl-1-oxy-4-piperidinyl)oxy]- (9CI) (CA INDEX NAME)



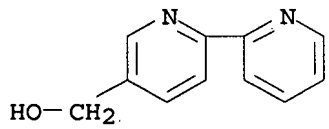
IT 100-55-0, 3-Pyridinemethanol 2226-96-2, 4-Hydroxy-TEMPO
RL: RCT (Reactant); RACT (Reactant or reagent)
(aerobic oxidation of alcs. to aldehydes using copper-polymer-supported bipyridine and polymer-supported TEMPO catalyst)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



RN 2226-96-2 HCAPLUS
CN 1-Piperidinyloxy, 4-hydroxy-2,2,6,6-tetramethyl- (CA INDEX NAME)

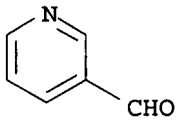


IT 146581-87-5P, 2,2'-Bipyridine-5-methanol
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(aerobic oxidation of alcs. to aldehydes using copper-polymer-supported bipyridine and polymer-supported TEMPO catalyst)
RN 146581-87-5 HCAPLUS
CN [2,2'-Bipyridine]-5-methanol (9CI) (CA INDEX NAME)



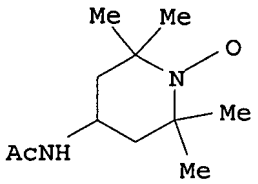
Updated Search

IT 500-22-1P, Nicotinaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(aerobic oxidation of alcs. to aldehydes using copper-polymer-supported bipyridine and polymer-supported TEMPO catalyst)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



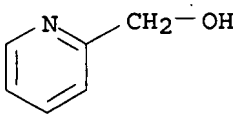
REFERENCE COUNT: 93 THERE ARE 93 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 3 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:761970 HCAPLUS
DOCUMENT NUMBER: 145:356134
TITLE: Cu(II)-Catalyzed Selective Aerobic Oxidation of Alcohols under Mild Conditions
AUTHOR(S): Jiang, Nan; Ragauskas, Arthur J.
CORPORATE SOURCE: Department of Chemistry, Georgia Institute of Technology, Atlanta, GA, 30332, USA
SOURCE: Journal of Organic Chemistry (2006), 71(18), 7087-7090
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 145:356134
AB An efficient four-component system consisting of acetamido-TEMPO/Cu(ClO4)2/TMDP/DABCO in DMSO has been developed for room-temperature aerobic alc. oxidation Under the optimal conditions, various alcs. could be converted into their corresponding aldehydes or ketones in good to excellent yields. The newly developed catalytic system could also be recycled and reused for three runs without any significant loss of catalytic activity.
IT 14691-89-5, 4-Acetamido-TEMPO
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehydes or ketones by aerobic alc. oxidation catalyzed by acetamido-TEMPO/Cu(ClO4)2/TMDP/DABCO in DMSO)
RN 14691-89-5 HCAPLUS
CN 1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl- (CA INDEX NAME)

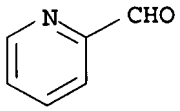


IT 586-98-1, 2-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehydes or ketones by aerobic alc. oxidation catalyzed by acetamido-TEMPO/Cu(ClO4)2/TMDP/DABCO in DMSO)
RN 586-98-1 HCAPLUS
CN 2-Pyridinemethanol (CA INDEX NAME)

Updated Search



IT 1121-60-4P, 2-Formylpyridine
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehydes or ketones by aerobic alc. oxidation catalyzed by acetamido-TEMPO/Cu(ClO4)2/TMDP/DABCO in DMSO)
RN 1121-60-4 HCAPLUS
CN 2-Pyridinecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 80 THERE ARE 80 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

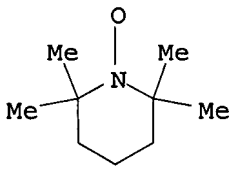
L27 ANSWER 4 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:669406 HCAPLUS
DOCUMENT NUMBER: 145:166657
TITLE: Process for preparation of aldehydes and ketones from alcohols by oxidation with air
INVENTOR(S): Liu, Renhua; Hu, Xinquan; Dong, Chunyan; Liang, Xinmiao
PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1796349	A	20060705	CN 2004-10101893	20041230

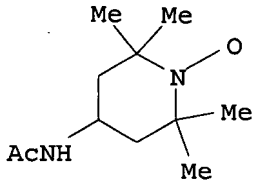
PRIORITY APPLN. INFO.: CN 2004-10101893 20041230
OTHER SOURCE(S): CASREACT 145:166657
AB The method comprises oxidizing alc. with air in the presence of 0.2 mol% TEMPO free radical or its derivative, 4-10 mol% active bromine (1,3-dibromo-5,5-dimethylhydantoin, N-bromosuccinimide, or pyridinium tribromide) and 4-10 mol% nitrite (sodium nitrite or potassium nitrite) in 1-5 mL water and 100 mL dichloromethane at 100°C and 0.4-0.9 Mpa for 1-10 h. The alc. can be benzyl alc., 4-methylbenzyl alc., 3-methylbenzyl alc., 2-methylbenzyl alc., 4-chlorobenzyl alc., 3-chlorobenzyl alc., 2-chlorobenzyl alc., α-methylbenzyl alc., 3-pyridinemethanol, 2-thiophenemethanol, cyclohexanol, octanol, or menthol.
IT 2564-83-2, 2,2,6,6-Tetramethylpiperidine N-oxy 14691-89-5 54052-87-8
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehydes and ketones from alcs. by oxidation with air)
RN 2564-83-2 HCAPLUS

Updated Search

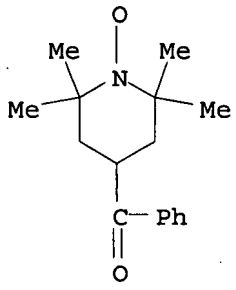
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



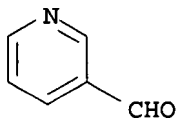
RN 14691-89-5 HCAPLUS
CN 1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl- (CA INDEX NAME)



RN 54052-87-8 HCAPLUS
CN 1-Piperidinyloxy, 4-benzoyl-2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)

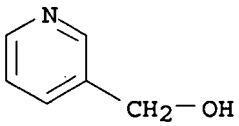


IT 500-22-1P, 3-Pyridylaldehyde
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehydes and ketones from alcs. by oxidation with air)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehydes and ketones from alcs. by oxidation with air)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)

Updated Search



L27 ANSWER 5 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:624725 HCAPLUS
DOCUMENT NUMBER: 145:124320
TITLE: Process for preparation of aromatic aldehydes and ketones by catalytic oxidation in aqueous solution
INVENTOR(S): Hu, Xinquan; Liu, Renhua; Dong, Chunyan; Liang, Xinmiao
PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 10 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

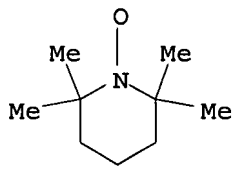
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1789225	A	20060621	CN 2004-10098936	20041216
PRIORITY APPLN. INFO.:			CN 2004-10098936	20041216

OTHER SOURCE(S): CASREACT 145:124320

AB The invention pertains to a method for catalytically oxidizing arylmethanol to aryl aldehyde or ketone by air at 40-120 °C for 1.5-16 h at 0.1-1.2 MPa, in which 2,2,6,6-tetramethylpiperidinyl-1-oxy (TEMPO) or its derivs., nitrites e.g. sodium nitrite or potassium nitrite, and active bromide to produce hypobromous acid in situ e.g. 1,3-dibromo-5,5-dimethyl-hydantoin, N-bromosuccinimide, pyridinium tribromide etc. at a molar ratio of 1:2-4:4 are used as catalysts. The molar ratio of TEMPO or its derivative and arylmethanol is about 1:100.

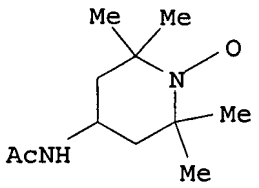
IT 2564-83-2, 2,2,6,6-Tetramethylpiperidinyl-1-oxy 14691-89-5
, 4-(Acetylamino)-2,2,6,6-tetramethylpiperidinyl-1-oxy 54052-87-8
, 4-Benzoyl-2,2,6,6-tetramethylpiperidinyl-1-oxy
RL: CAT (Catalyst use); USES (Uses)
(preparation of aromatic aldehydes and ketones by catalytic oxidation in aqueous solution)

RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

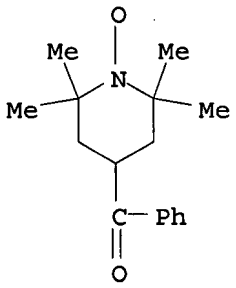


RN 14691-89-5 HCAPLUS
CN 1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl- (CA INDEX NAME)

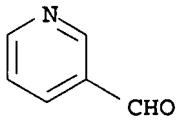
Updated Search



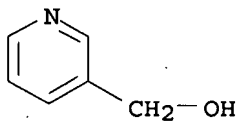
RN 54052-87-8 HCAPLUS
CN 1-Piperidinyloxy, 4-benzoyl-2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)



IT 500-22-1P, 3-Pyridylaldehyde
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of aromatic aldehydes and ketones by catalytic oxidation in aqueous solution)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



IT 100-55-0, 3-Pyridylmethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aromatic aldehydes and ketones by catalytic oxidation in aqueous solution)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



L27 ANSWER 6 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:284083 HCAPLUS
DOCUMENT NUMBER: 145:7498

Updated Search

TITLE: Catalyst system and method for preparation of aldehyde and ketone from alcohol

INVENTOR(S): Liu, Renhua; Hu, Xinquan; Dong, Chunyan; Liang, Xinmiao

PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 12 pp.
CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1651381	A	20050810	CN 2004-10003791	20040205

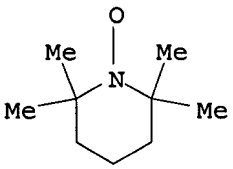
PRIORITY APPLN. INFO.: CN 2004-10003791 20040205

OTHER SOURCE(S): CASREACT 145:7498

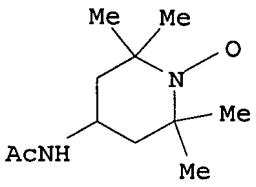
AB This invention pertains to catalyst system for preparing aldehyde and ketone from alc., and the catalyst system comprises oxidizing agent and catalyst of 2,2,6,6-tetramethyl-1-piperidinyloxy, halogen, and nitrite. The 2,2,6,6-tetra-Me piperidine-oxo free radical is 4-benzoyl-2,2,6,6-tetramethylpiperidinyloxy, or 4-acetylamino-2,2,6,6-tetramethylpiperidinyloxy. The method for preparing aldehyde and ketone from alc. comprises mixing alc. and catalyst system and reacting at 40-120°C and 0.1-1.0MPa for 0.5-8 h. The alc. is primary alc. of substituted benzyl alc., fatty primary alc. and/or N, S heteroaryl substituted methanol; secondary alc. of aryl substituted secondary alc., fatty secondary alc. or/and alicyclic alc.

IT 2564-83-2, Tempo 14691-89-5 54052-87-8
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehyde and ketone by oxidation of alc. in presence of TEMPO, nitrite, and halogen)

RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

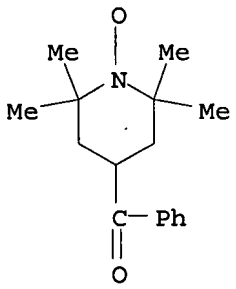


RN 14691-89-5 HCAPLUS
CN 1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl- (CA INDEX NAME)

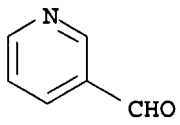


RN 54052-87-8 HCAPLUS
CN 1-Piperidinyloxy, 4-benzoyl-2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)

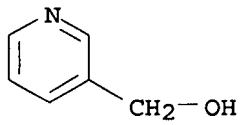
Updated Search



IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehyde and ketone by oxidation of alc. in presence of TEMPO,
nitrite, and halogen)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



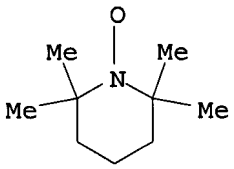
IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehyde and ketone by oxidation of alc. in presence of TEMPO,
nitrite, and halogen)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



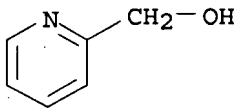
L27 ANSWER 7 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1148403 HCAPLUS
DOCUMENT NUMBER: 144:51217
TITLE: NaNO2-activated, iron-TEMPO catalyst system for aerobic alcohol oxidation under mild conditions
AUTHOR(S): Wang, Naiwei; Liu, Renhua; Chen, Jiping; Liang, Xinmiao
CORPORATE SOURCE: Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China
SOURCE: Chemical Communications (Cambridge, United Kingdom) (2005), (42), 5322-5324
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal

Updated Search

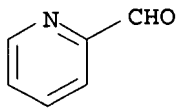
LANGUAGE: English
OTHER SOURCE(S): CASREACT 144:51217
AB FeCl3-TEMPO-NaNO2 catalyzes the selective and mild aerobic oxidation of a broad range of alcs. to the corresponding aldehydes and ketones.
IT 2564-83-2, Tempo
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehydes and ketones via FeCl3-TEMPO-NaNO2 catalyzed selective aerobic oxidation of alcs.)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 586-98-1, 2-Hydroxymethylpyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehydes and ketones via FeCl3-TEMPO-NaNO2 catalyzed selective aerobic oxidation of alcs.)
RN 586-98-1 HCAPLUS
CN 2-Pyridinemethanol (CA INDEX NAME)



IT 1121-60-4P, 2-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehydes and ketones via FeCl3-TEMPO-NaNO2 catalyzed selective aerobic oxidation of alcs.)
RN 1121-60-4 HCAPLUS
CN 2-Pyridinecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

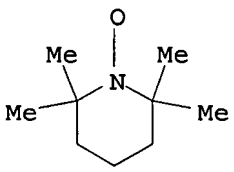
L27 ANSWER 8 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:1148813 HCAPLUS
DOCUMENT NUMBER: 142:74314
TITLE: Highly Efficient Catalytic Aerobic Oxidations of Benzylic Alcohols in Water
AUTHOR(S): Liu, Renhua; Dong, Chunyan; Liang, Xinmiao; Wang, Xiujuan; Hu, Xinquan
CORPORATE SOURCE: Dalian Institute of Chemical Physics, the Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China
SOURCE: Journal of Organic Chemistry (2005), 70(2), 729-731

Updated Search

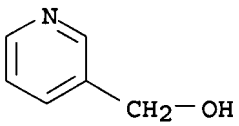
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:74314

AB A highly efficient catalytic system without transition metals in water has been developed for aerobic oxidns. of benzylic alcs. The newly developed catalyst system oxidized benzylic alcs. and heteroarom. analogs with 1 mol % TEMPO as a catalyst and with a catalytic amount of 1,3-dibromo-5,5-dimethylhydantoin and NaNO2 as cocatalysts. Under the optimal conditions, various alcs. were converted into their corresponding aldehydes or ketones in high yields.

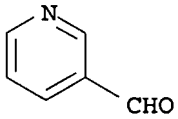
IT 2564-83-2, TEMPO
RL: CAT (Catalyst use); USES (Uses)
(preparation of carbonyl compound via catalytic aerobic oxidation of alcs. with
TEMPO in water)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of carbonyl compound via catalytic aerobic oxidation of alcs. with
TEMPO in water)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of carbonyl compound via catalytic aerobic oxidation of alcs. with
TEMPO in water)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS

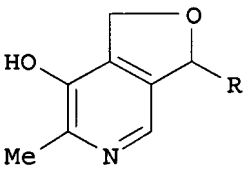
Updated Search

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

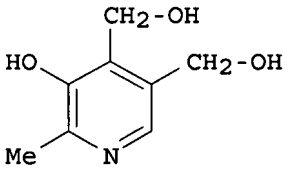
L27 ANSWER 9 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:213306 HCAPLUS
DOCUMENT NUMBER: 140:253453
TITLE: Process for the preparation of 1,3-dihydro-6-methylfuro(3,4-c)pyridin-7-ol derivatives, in particular cicletanine hydrochloride, by protection, oxidation, addition of a nucleophile, and one pot deprotection/cyclodehydration
INVENTOR(S): Gore, Vinayak G.; Ghadge, Manoj M.; Gupta, Ashwini Kumar K.
PATENT ASSIGNEE(S): Generics (UK) Limited, UK
SOURCE: Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1398316	A2	20040317	EP 2003-255795	20030916
EP 1398316	A3	20040414		
EP 1398316	B1	20060614		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
AT 329918	T	20060715	AT 2003-255795	20030916

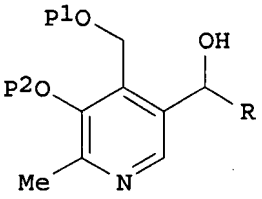
PRIORITY APPLN. INFO.: GB 2002-21494 A 20020916
OTHER SOURCE(S): CASREACT 140:253453; MARPAT 140:253453
GI



I



II



III

AB The invention is directed to the preparation of 1,3-dihydro-6-methylfuro(3,4-c)pyridin-7-ols I or salt by selective protection of pyridoxine II or salt , oxidation of the 3,4-protected pyridoxine with aqueous NaClO in the presence of catalytic amount of TEMPO, addition of a nucleophile, especially a Grignard reagent, to the 3,4-protected pyridoxal, and one pot deprotection/cyclodehydration

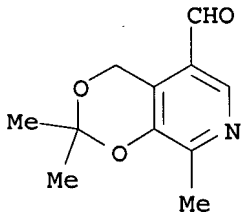
Updated Search

of III [R = substituted al(en/yn)yl, alkyl/alkenyl/alkynyl/aryl, arylalk(en/yn)yl which may include one or more N, O, or S; P1, P2 = independently protecting groups or together form one protecting group]. The invention is directed in particular to preparation of the well-known antihypertensive agent cicletanine hydrochloride (I•HCl, where R = 4-chlorophenyl). The advantages include environmentally friendly starting materials, simple process, and therefore an easy industrial scale-up. For example, cicletanine hydrochloride was prepared protection of pyridoxine hydrochloride with acetone/HCl, oxidation of the pyridinylmethyl alc. with NaClO in the presence of TEMPO/NaHCO3/DCM, addition of the 4-chlorophenylmagnesium bromide generated in situ from Mg and 4-bromochlorobenzene in THF at reflux, followed by one pot deprotection/cyclodehydration with concentrated HCl at reflux.

IT 6560-65-2P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(aldehyde intermediate; process for preparation of cicletanine hydrochloride and its derivs. by protection, oxidation, addition of a nucleophile, and one pot deprotection/cyclodehydration)

RN 6560-65-2 HCAPLUS

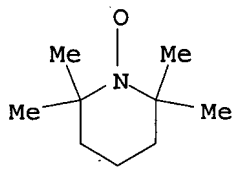
CN 4H-1,3-Dioxino[4,5-c]pyridine-5-carboxaldehyde, 2,2,8-trimethyl- (CA INDEX NAME)



IT 2564-83-2, 2,2,6,6-Tetramethyl-1-piperidinyloxy
RL: CAT (Catalyst use); USES (Uses)
(catalyst; process for preparation of cicletanine hydrochloride and its derivs. by protection, oxidation, addition of a nucleophile, and one pot deprotection/cyclodehydration)

RN 2564-83-2 HCAPLUS

CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

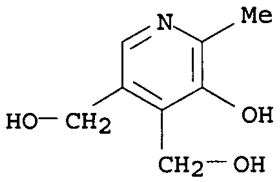


IT 58-56-0, Pyridoxine hydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for preparation of cicletanine hydrochloride and its derivs. by protection, oxidation, addition of a nucleophile, and one pot deprotection/cyclodehydration)

RN 58-56-0 HCAPLUS

CN 3,4-Pyridinedimethanol, 5-hydroxy-6-methyl-, hydrochloride (1:1) (CA INDEX NAME)

Updated Search



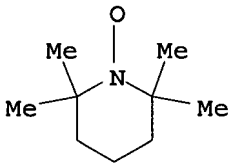
● HCl

L27 ANSWER 10 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:199180 HCAPLUS
DOCUMENT NUMBER: 140:391051
TITLE: Transition-Metal-Free: A Highly Efficient Catalytic Aerobic Alcohol Oxidation Process
AUTHOR(S): Liu, Renhua; Liang, Xinmiao; Dong, Chunyan; Hu, Xinquan
CORPORATE SOURCE: Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China
SOURCE: Journal of the American Chemical Society (2004), 126(13), 4112-4113
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:391051

AB A highly efficient catalytic system without transition metals has been developed for aerobic alc. oxidns. Under the optimal reaction conditions, various alc. substrates were converted into their corresponding carbonyl compds. by air with TEMPO/Br2/NaNO2 as catalyst.

IT 2564-83-2, TEMPO
RL: CAT (Catalyst use); USES (Uses)
(preparation of aldehydes and ketones via transition metal free aerobic oxidation of alcs. catalyzed by TEMPO/Br2/NaNO2)

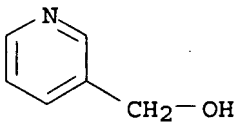
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



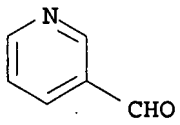
IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aldehydes and ketones via transition metal free aerobic oxidation of alcs. catalyzed by TEMPO/Br2/NaNO2)

RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)

Updated Search



IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aldehydes and ketones via transition metal free aerobic oxidation of alcs. catalyzed by TEMPO/Br2/NaNO2)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 11 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:777759 HCAPLUS
DOCUMENT NUMBER: 139:276804
TITLE: Process for producing heterocyclic aldehyde
INVENTOR(S): Shiomi, Yasuhiro; Uno, Osamu; Ohta, Akio; Sunakami, Takeshi
PATENT ASSIGNEE(S): Koei Chemical Co., Ltd., Japan
SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

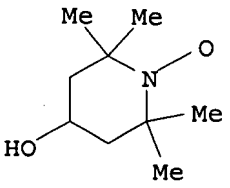
PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2003080575	A1	20031002	WO 2003-JP3568		20030325
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
AU 2003221048	A1	20031008	AU 2003-221048		20030325
GB 2404190	A	20050126	GB 2004-21452		20030325
US 2005124807	A1	20050609	US 2003-509228		20030325
PRIORITY APPLN. INFO.:			JP 2002-86974	A	20020326
			WO 2003-JP3568	W	20030325

OTHER SOURCE(S): MARPAT 139:276804
AB The patent relates to a process in which a heterocyclic alc. is oxidized to produce a heterocyclic aldehyde with high selectivity in high yield. The process comprises reacting a heterocyclic compound having per mol. at least one hydroxymethyl group bonded to a carbon atom of the heterocycle

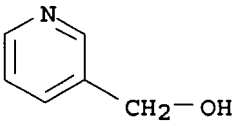
Updated Search

with a hypohalogenous acid salt in the presence of a base to oxidize the hydroxymethyl group to thereby produce the corresponding heterocyclic aldehyde, wherein the reaction is conducted in the presence of a 2,2,6,6-tetramethylpiperidin-1-oxyl derivative having per mol. two or more 2,2,6,6-tetramethylpiperidin-1-oxyl-4-yl groups. Thus, 3-pyridine-methanol was oxidized by sodium hypochlorite in presence of an oligomer derivative obtained from Chimassorb 944LD with hydrogen peroxide and generated 3-pyridinecarbaldehyde (90.1%) and nicotinic acid (3.4%).

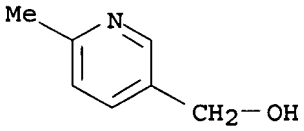
IT 2226-96-2DP, 4-Hydroxy-2,2,6,6-tetramethylpiperidine-N-oxy, reaction product with poly(2-isocyanatoethyl methacrylate)
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(in preparation of heterocyclic aldehyde)
RN 2226-96-2 HCAPLUS
CN 1-Piperidinyloxy, 4-hydroxy-2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 100-55-0, 3-Pyridine-methanol 34107-46-5, 6-Methyl-3-pyridine-methanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of heterocyclic aldehyde)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)

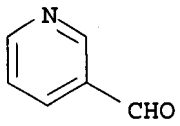


RN 34107-46-5 HCAPLUS
CN 3-Pyridinemethanol, 6-methyl- (CA INDEX NAME)

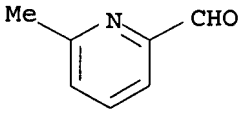


IT 500-22-1P, 3-Pyridinecarbaldehyde 1122-72-1P, 6-Methyl-2-pyridinecarbaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of heterocyclic aldehyde)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)

Updated Search



RN 1122-72-1 HCAPLUS
CN 2-Pyridinecarboxaldehyde, 6-methyl- (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 12 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:664039 HCAPLUS
DOCUMENT NUMBER: 139:323311
TITLE: A Convenient Nitroxyl Radical Catalyst for the Selective Oxidation of Primary and Secondary Alcohols to Aldehydes and Ketones by O2 and H2O2 under Mild Conditions
AUTHOR(S): Minisci, Francesco; Recupero, Francesco; Rodino, Marianna; Sala, Massimiliano; Schneider, Armin
CORPORATE SOURCE: Dipartimento di Chimica, Materiali e Ingegneria Chimica "Giulio Natta", Politecnico di Milano, Milan, 20131, Italy
SOURCE: Organic Process Research & Development (2003), 7(6), 794-798
CODEN: OPRDFK; ISSN: 1083-6160
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:323311

AB A new macrocyclic tetrafunctional nitroxyl radical, [Chimassorb 966 radical (I)], developed by Ciba Specialty Chems., is a particularly effective catalyst in combination with Mn(II) and Co(II) or Cu(II) nitrates for the selective oxidation of primary and secondary alcs. to the corresponding aldehydes and ketones by air or O2 under mild conditions (ambient temperature and pressure) or H2O2. A distinctive feature of I is the possibility of easy recovery and recycles, due to its low solubility, particularly as ammonium salt, in most organic solvents, which makes it especially useful for practical applications. In the absence of I or the manganese nitrate/cobalt nitrate couple no substantial oxidation occurs, suggesting that also with hydrogen peroxide, the actual oxidant of the alc. is an oxoammonium salt, which is continuously regenerated by the combination of hydrogen peroxide and the metal salt catalysts.

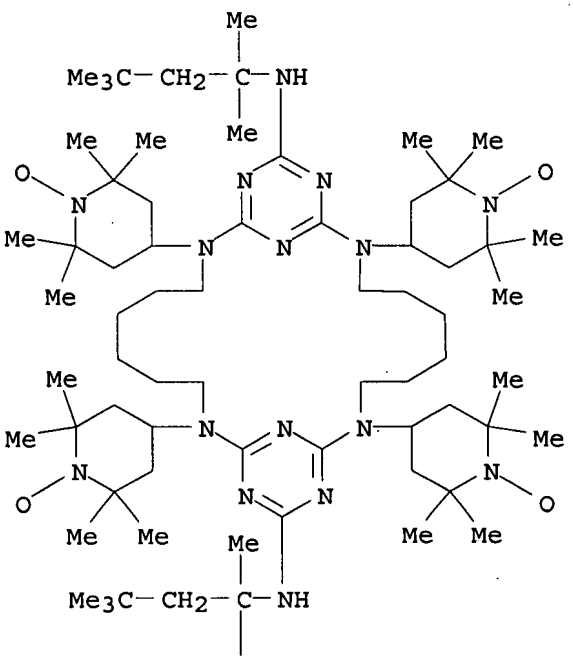
IT 613258-32-5
RL: CAT (Catalyst use); USES (Uses)
(Chimassorb 966 radical; nitroxyl radical (Chimassorb 966 radical) catalyst for selective oxidation of primary and secondary alcs. to aldehydes and ketones by oxygen and hydrogen peroxide under mild conditions)

RN 613258-32-5 HCAPLUS
CN 1-Piperidinyloxy, 4,4',4'',4'''-[12,25-bis[(1,1,3,3-tetramethylbutyl)amino]-2,9,11,13,15,22,24,26,27,28-

Updated Search

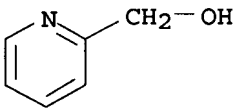
decaazatricyclo[21.3.1.110,14]octacosa-1(27),10,12,14(28),23,25-hexaene-2,9,15,22-tetrayl]tetrakis[2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



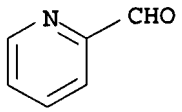
PAGE 2-A

IT 586-98-1, 2-(Hydroxymethyl)pyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(nitroxyl radical (Chimassorb 966 radical) catalyst for selective oxidation of primary and secondary alcs. to aldehydes and ketones by oxygen and hydrogen peroxide under mild conditions)
RN 586-98-1 HCAPLUS
CN 2-Pyridinemethanol (CA INDEX NAME)



IT 1121-60-4P, 2-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(nitroxyl radical (Chimassorb 966 radical) catalyst for selective oxidation of primary and secondary alcs. to aldehydes and ketones by oxygen and hydrogen peroxide under mild conditions)
RN 1121-60-4 HCAPLUS
CN 2-Pyridinecarboxaldehyde (CA INDEX NAME)

Updated Search

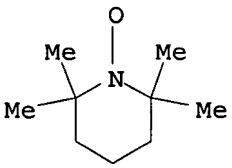


REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

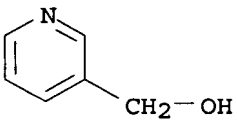
L27 ANSWER 13 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:13470 HCAPLUS
DOCUMENT NUMBER: 138:204504
TITLE: Iodine as a Chemoselective Reoxidant of TEMPO: Application to the Oxidation of Alcohols to Aldehydes and Ketones
AUTHOR(S): Miller, Ross A.; Hoerrner, R. Scott
CORPORATE SOURCE: Merck Research Laboratories, Rahway, NJ, 07065, USA
SOURCE: Organic Letters (2003), 5(3), 285-287
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:204504

AB Chemoselective alc. oxidns. using catalytic TEMPO and stoichiometric iodine as the terminal oxidant were studied. Iodine was compared to other pos. halogens as the terminal oxidant and shown to be superior in cases of electron-rich and heteroarom. rings. The new conditions were successfully applied to the oxidation of 2-butyl-5-chloro-4-imidazolemethanol to its aldehyde derivative, which is an important intermediate in the synthesis of losartan.

IT 2564-83-2, TEMPO
RL: CAT (Catalyst use); USES (Uses)
(chemoselective oxidation of alcs. to carbonyl compds. using catalytic TEMPO and stoichiometric amts. of iodine)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

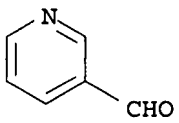


IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(chemoselective oxidation of alcs. to carbonyl compds. using catalytic TEMPO and stoichiometric amts. of iodine)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



Updated Search

IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(chemoselective oxidation of alcs. to carbonyl compds. using catalytic TEMPO and stoichiometric amts. of iodine)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 14 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:658068 HCAPLUS
DOCUMENT NUMBER: 137:201293
TITLE: Method of synthesizing camptothecin-relating compounds
INVENTOR(S): Ogawa, Takanori; Nishiyama, Hiroyuki; Uchida, Miyuki; Sawada, Seigo
PATENT ASSIGNEE(S): Kabushiki Kaisha Yakult Honsha, Japan
SOURCE: PCT Int. Appl., 89 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002066416	A1	20020829	WO 2002-JP1538	20020221
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
TW 245768	B	20051221	TW 2002-91102967	20020220
CA 2437702	A1	20020829	CA 2002-2437702	20020221
AU 2002237527	A1	20020904	AU 2002-237527	20020221
AU 2002237527	B2	20070104		
EE 200300373	A	20031015	EE 2003-373	20020221
HU 200302755	A2	20031229	HU 2003-2755	20020221
EP 1378505	A1	20040107	EP 2002-703874	20020221
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1492851	A	20040428	CN 2002-805323	20020221
NZ 527615	A	20041224	NZ 2002-527615	20020221
IN 2003MN00709	A	20050429	IN 2003-MN709	20030718
BG 108031	A	20050430	BG 2003-108031	20030725
ZA 2003006223	A	20040603	ZA 2003-6223	20030812
NO 2003003579	A	20031010	NO 2003-3579	20030813
NZ 534374	A	20041224	NZ 2003-534374	20030814
MX 2003PA07528	A	20031211	MX 2003-PA7528	20030821
US 2004106830	A1	20040603	US 2003-467987	20031218

Updated Search

US 7126000	B2	20061024			
US 2007010674	A1	20070111	US 2006-517621		20060908
IN 2007MN00911	A	20070803	IN 2007-MN911		20070615
PRIORITY APPLN. INFO.:			JP 2001-45430	A	20010221
			JP 2001-309322	A	20011005
			JP 2001-309332	A	20011005
			WO 2002-JP1538	W	20020221
			IN 2003-MN709	A3	20030718
			US 2003-467987	A3	20031218

OTHER SOURCE(S): CASREACT 137:201293; MARPAT 137:201293
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

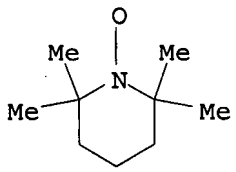
AB 2'-Amino-5'-hydroxypropiophenone (I) corresponding to the AB cycle moiety of the camptothecin (CPT) skeleton and a tricyclic ketone, namely (S)-4-ethyl-7,8-dihydro-4-hydroxy-1H-pyrano[3,4-f]indolizine-3,6,10(4H)-trione (II) corresponding to the CDE cycle moiety thereof can be efficiently produced and thus CPT and its derivs. can be stably supplied by a practically usable total synthesis to more efficiently provide camptothecin (CPT), which is a starting compound for irinotecan hydrochloride, namely 7-ethyl-10-[4-(1-piperidino)-1-piperidino]carbonyloxycamptothecin hydrochloride trihydrate, and various camptothecin derivs. Thus, benzylation of 2-nitro-5-hydroxybenzaldehyde by benzyl chloride in the presence of K2CO3 in DMF at 60° for 20 h gave 94% 5-benzyloxy-2-nitrobenzaldehyde which went addition reaction with vinylmagnesium bromide in THF at 3-10° for 1 h to give 84.0% 1-(5-benzyloxy-2-nitrophenyl)-2-propen-1-ol (VIII). Oxidation of VIII with MnO2 in CHCl3 at 25° for 15 h gave 91% 1-(5-benzyloxy-2-nitrophenyl)-1-oxo-2-propene which was hydrogenated over 10% Pd-C in EtOAc under H atmospheric for 13 h to give 81% I. K2OsO4.2H2O and (DHQD)2PYR were added to an aqueous solution of K3Fe(CN)6, K2CO3, and MeSO2NH2 and stirred at .apprx.5° for 1 h, followed by adding 4-ethyl-8-methoxy-6-(trimethylsilyl)-1H-pyrano[3,4-c]pyridine, and the resulting mixture was stirred at 5° for 20 h, treated with sodium sulfite, and stirred at 5° for 30 min for asym. dihydroxylation to give a diol (III) (95%) which was oxidized by iodine and K2CO3 in aqueous methanol at 40° for 48 h to give a lactone (IV; R = TMS) (88%). Iodination of IV (R = TMS) by iodine and CF3CO2Ag in CH2Cl2 at room temperature for 16.5 h gave IV (R = iodo) (97%) which underwent carbonylation by CO in the presence of Pd(OAc)2 and K2CO3 in 1-propanol at 60° for 18 to give an ester IV (R = n-PrO2C) (70%). Demethylation of IV (R = n-PrO2C) by treatment with Me3SiCl and NaI in MeCN at room temperature for 3 h gave a keto lactone, namely 4-ethyl-3,4,7,8-tetrahydro-4-hydroxy-3,8-dioxo-1H-pyrano[3,4-c]pyridine-6-carboxylic acid Pr ester (V) (95%) which was cyclocondensed with tert-Bu acrylate in the presence of K2CO3 in DMSO at 50° for 20 min to give a tricyclic compound (VI) (77%). VI was heated with a mixture of CF3CO2H and PhMe at 110° for 100 min to give 77% II which was cyclocondensed with I in a 1:1 mixture of AcOH and toluene in the presence of p-toluenesulfonic acid monohydrate at 100° for 18 h to give SN-38 (VII; R1= H). VII (R1= H) was converted into irinotecan hydrochloride, VII.HCl (R1 = Q).

IT 2564-83-2, TEMPO
RL: RGT (Reagent); RACT (Reactant or reagent)
(oxidation by; preparation of camptothecin-relating compds. such as irinotecan
hydrochloride and intermediates thereof)

RN 2564-83-2 HCAPLUS

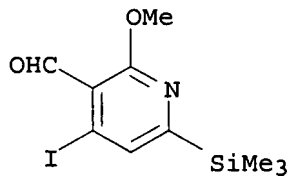
Updated Search

CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

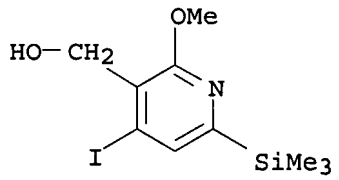


IT 174092-75-2P, 4-Iodo-2-methoxy-6-trimethylsilyl-3-pyridinecarboxaldehyde 375346-05-7P 453518-21-3P, 2-Methoxy-6-trimethylsilyl-3-pyridinecarboxaldehyde
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of camptothecin-relating compds. such as irinotecan hydrochloride and intermediates thereof)

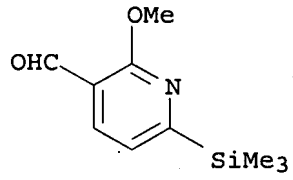
RN 174092-75-2 HCAPLUS
CN 3-Pyridinecarboxaldehyde, 4-iodo-2-methoxy-6-(trimethylsilyl)- (CA INDEX NAME)



RN 375346-05-7 HCAPLUS
CN 3-Pyridinemethanol, 4-iodo-2-methoxy-6-(trimethylsilyl)- (CA INDEX NAME)



RN 453518-21-3 HCAPLUS
CN 3-Pyridinecarboxaldehyde, 2-methoxy-6-(trimethylsilyl)- (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 15 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:269416 HCAPLUS
DOCUMENT NUMBER: 137:5763

Updated Search

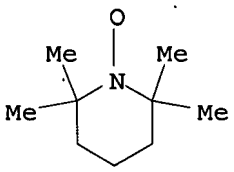
TITLE: TEMPO-Catalyzed Aerobic Oxidation of Alcohols to Aldehydes and Ketones in Ionic Liquid [bmim][PF6]

AUTHOR(S): Ansari, Imtiaz A.; Gree, Rene
CORPORATE SOURCE: Laboratoire de Syntheses et Activations de Biomolecules, ENSCR and CNRS UMR 6052, Rennes, 35700, Fr.

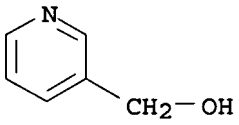
SOURCE: Organic Letters (2002), 4(9), 1507-1509
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:5763

AB A simple and mild TEMPO-CuCl catalyzed aerobic oxidation of primary and secondary alcs. to the corresponding aldehydes and ketones in ionic liquid [bmim][PF6] with no trace of overoxidn. to carboxylic acids has been developed. The product can be isolated by a simple extraction with organic solvent, and the ionic liquid can be recycled or reused.

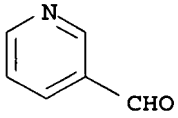
IT 2564-83-2, TEMPO
RL: CAT (Catalyst use); USES (Uses)
(TEMPO-catalyzed aerobic oxidation of alcs. to aldehydes and ketones in ionic liquid [bmim][PF6])
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 100-55-0, 3-(Hydroxymethyl)pyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(TEMPO-catalyzed aerobic oxidation of alcs. to aldehydes and ketones in ionic liquid [bmim][PF6])
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)



IT 500-22-1P, 3-Formylpyridine
RL: SPN (Synthetic preparation); PREP (Preparation)
(TEMPO-catalyzed aerobic oxidation of alcs. to aldehydes and ketones in ionic liquid [bmim][PF6])
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



Updated Search

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

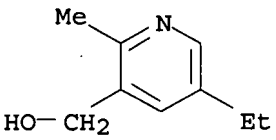
L27 ANSWER 16 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:83223 HCAPLUS
DOCUMENT NUMBER: 116:83223
TITLE: Manufacture of aldehydes from primary alcohols
INVENTOR(S): Torii, Shigeru; Iguchi, Tsutomu; Matsumoto, Shigeaki; Fukushima, Mitsuhiro
PATENT ASSIGNEE(S): Osaka Yuki Kagaku Kogyo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03184934	A	19910812	JP 1989-322842	19891212

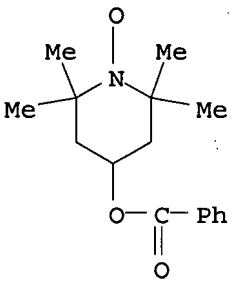
PRIORITY APPLN. INFO.: JP 1989-322842 19891212
OTHER SOURCE(S): CASREACT 116:83223; MARPAT 116:83223

AB Aldehydes are manufactured by treating primary alcs. with R1R2R3R4NBrO2 (R1-4 = C1-20 alkyl or aralkyl) in the presence of N-oxyl compds. Thus, treating 1-undecanol with 4-benzoyloxy-2,2,6,6-tetramethylpiperidine-1-oxyl and tetrabutylammonium bromite in CH2Cl2 at room temperature gave 95% undecanal.

IT 123903-23-1, 5-Ethyl-3-hydroxymethyl-2-methylpyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, with N-oxyl compound and quaternary ammonium bromite)
RN 123903-23-1 HCAPLUS
CN 3-Pyridinemethanol, 5-ethyl-2-methyl- (9CI) (CA INDEX NAME)



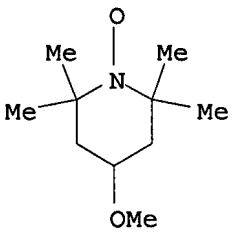
IT 3225-26-1 95407-69-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation with quaternary ammonium bromite and, of primary alcs. to aldehydes)
RN 3225-26-1 HCAPLUS
CN 1-Piperidinyloxy, 4-(benzoyloxy)-2,2,6,6-tetramethyl- (CA INDEX NAME)



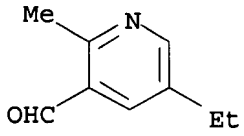
RN 95407-69-5 HCAPLUS

Updated Search

CN 1-Piperidinyloxy, 4-methoxy-2,2,6,6-tetramethyl- (CA INDEX NAME)

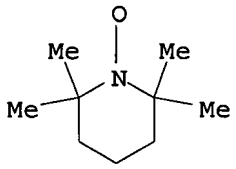


IT 123903-24-2P, 5-Ethyl-3-formyl-2-methylpyridine
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by oxidation of ethyl(hydroxymethyl)methylpyridine with N-oxyl
compound and quaternary ammonium bromite)
RN 123903-24-2 HCAPLUS
CN 3-Pyridinecarboxaldehyde, 5-ethyl-2-methyl- (9CI) (CA INDEX NAME)

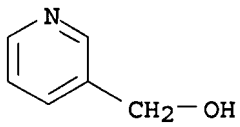


L27 ANSWER 17 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:20658 HCAPLUS
DOCUMENT NUMBER: 116:20658
TITLE: A general synthetic method for the oxidation of primary alcohols to aldehydes: (S)-(+)-2-methylbutanal
AUTHOR(S): Anelli, Pier Lucio; Montanari, Fernando; Quici, Silvio
CORPORATE SOURCE: Dip. Chim. Org. Ind., Univ. Milano, Milan, I-20133, Italy
SOURCE: Organic Syntheses (1990), 69, 212-19
CODEN: ORSYAT; ISSN: 0078-6209
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 116:20658
AB The rapid, inexpensive, selective oxidation of alcs. to aldehydes was achieved by the oxidation of alcs. with sodium hypochlorite in the presence of 2,2,6,6-tetramethylpiperidin-1-oxyl and KBr. The oxidation of (S)-2-methyl-1-butanol with sodium hypochlorite in the presence of 2,2,6,6-tetramethylpiperidin-1-oxyl and KBr gave 82-84% (S)-2-methylbutanal.
IT 2564-83-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidizing agent containing sodium hypochloride and potassium bromide and, for alcs.)
RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

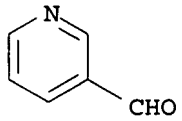
Updated Search



IT 100-55-0, 3-Pyridinemethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, with sodium hypochlorite in presence of tetramethylpiperidinoxyl and potassium bromide)
RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)

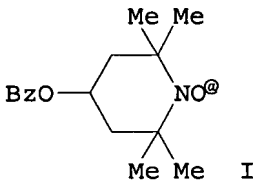


IT 500-22-1P, 3-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by oxidation of pyridinemethanol with sodium hypochlorite in presence of tetramethylpiperidinoxyl and potassium bromide)
RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



L27 ANSWER 18 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:513733 HCAPLUS
DOCUMENT NUMBER: 115:113733
TITLE: A new oxidizing system for aromatic alcohols by the combination of N-oxoammonium salt and electrosynthesized tetraalkylammonium tribromide
AUTHOR(S): Inokuchi, Tsutomu; Matsumoto, Sigeaki; Fukushima, Mitsuhiro; Torii, Sigeru
CORPORATE SOURCE: Fac. Eng., Okayama Univ., Okayama, 700, Japan
SOURCE: Bulletin of the Chemical Society of Japan (1991), 64(3), 796-800
CODEN: BCSJA8; ISSN: 0009-2673
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 115:113733
GI

Updated Search



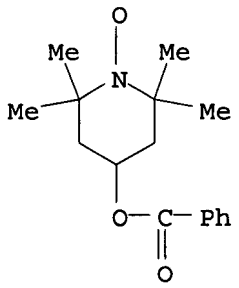
I

AB A combination of piperidinyloxyl I and tetraalkylammonium tribromides (R4NBr3), which are available from the corresponding tetraalkylammonium bromides via electrooxidn. with KBr, is useful for oxidation of primary and secondary alcs. to aldehydes and ketones, resp. The oxidation proceeds smoothly even with 0.5-1.0 mol % I and 1.5-2.0 equiv of tetraalkylammonium tribromide in an aqueous-organic two-phase solution buffered at pH 8.0-8.6. This recyclable oxidant/cooxidant system may involve formation of N-oxoammonium salts, the actual oxidizing agents of alcs., by the action of hypobromite species generated from R4NBr3 in the binary solution Benzylic alcs. bearing electron-releasing groups on the aromatic nucleus are oxidized to aldehydes or ketones without any bromination and overoxidn.

IT 3225-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation by tetraalkylammonium tribromides and, of alcs.)

RN 3225-26-1 HCAPLUS

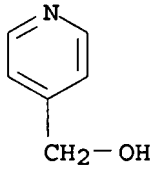
CN 1-Piperidinyloxy, 4-(benzoyloxy)-2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 586-95-8, 4-(Hydroxymethyl)pyridine 123903-23-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, by piperidinoxyl radical and tetrabutylammonium tribromide)

RN 586-95-8 HCAPLUS

CN 4-Pyridinemethanol (CA INDEX NAME)



RN 123903-23-1 HCAPLUS

CN 3-Pyridinemethanol, 5-ethyl-2-methyl- (9CI) (CA INDEX NAME)

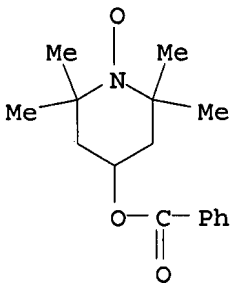
Updated Search

AB The oxidation of primary and secondary alcs. leading to aldehydes, carboxylic acids, and ketones has been carried out in N-oxoammonium salt-NaBrO2 systems. Sodium bromite as a stoichiometric oxidizing reagent activates N-oxyl compds. (recycling catalysts, e.g., I) to their N-oxoammonium salts in a weakly basic medium, which oxidize primary hydroxyl groups preferentially (rather than secondary ones) to the corresponding aldehydes. Calcium hypochlorite is used as an alternative terminal oxidant in the same media. The procedure, applicable to the selective formation of γ- and δ-lactones, β-hydroxy aldehydes, and 2-acetoxy ketones, is advantageous in terms of reagent cost, safety, and ease of operation.

IT 3225-26-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of alcs. by sodium bromite or calcium hypochlorite in presence of)

RN 3225-26-1 HCAPLUS

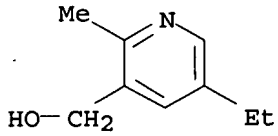
CN 1-Piperidinyloxy, 4-(benzoyloxy)-2,2,6,6-tetramethyl- (CA INDEX NAME)



IT 123903-23-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, with N-oxyl compound and sodium bromite)

RN 123903-23-1 HCAPLUS

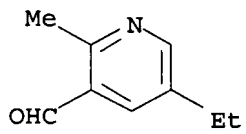
CN 3-Pyridinemethanol, 5-ethyl-2-methyl- (9CI) (CA INDEX NAME)



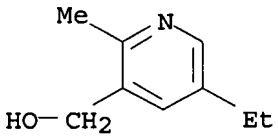
IT 123903-24-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 123903-24-2 HCAPLUS

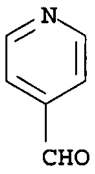
CN 3-Pyridinecarboxaldehyde, 5-ethyl-2-methyl- (9CI) (CA INDEX NAME)



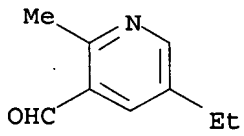
Updated Search



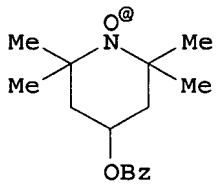
IT 872-85-5P, 4-Pyridinecarboxaldehyde 123903-24-2P, 5-Ethyl-2-methyl-3-pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 872-85-5 HCAPLUS
CN 4-Pyridinecarboxaldehyde (CA INDEX NAME)



RN 123903-24-2 HCAPLUS
CN 3-Pyridinecarboxaldehyde, 5-ethyl-2-methyl- (9CI) (CA INDEX NAME)



L27 ANSWER 19 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:54469 HCAPLUS
DOCUMENT NUMBER: 112:54469
TITLE: A selective and efficient method for alcohol oxidations mediated by N-oxoammonium salts in combination with sodium bromite
AUTHOR(S): Inokuchi, Tsutomu; Matsumoto, Sigeaki; Nishiyama, Tokio; Torii, Sigeru
CORPORATE SOURCE: Fac. Eng., Okayama Univ., Okayama, 700, Japan
SOURCE: Journal of Organic Chemistry (1990), 55(2), 462-6
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 112:54469
GI



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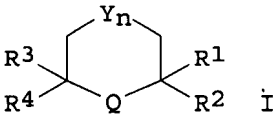
Updated Search

L27 ANSWER 20 OF 20 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:632782 HCAPLUS
DOCUMENT NUMBER: 111:232782
TITLE: Preparation of formylheterocycles via oxidation of (hydroxymethyl)heterocycles with hypohalite in the presence of tetraalkylpyrrolidines and piperidines
INVENTOR(S): Kuekenhoehner, Thomas; Goetz, Norbert; Theobald, Hans; Knaus, Guenter H.
PATENT ASSIGNEE(S): BASF A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 10 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3738909	A1	19890524	DE 1987-3738909	19871117
EP 316783	A1	19890524	EP 1988-118788	19881111
EP 316783	B1	19920318		
R: BE, CH, DE, FR, GB, IT, LI, NL				
CA 1331383	C	19940809	CA 1988-583240	19881116
PRIORITY APPLN. INFO.:			DE 1987-3738909 A	19871117

OTHER SOURCE(S): CASREACT 111:232782; MARPAT 111:232782
GI



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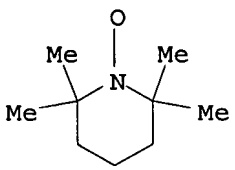
AB ArCHO (Ar = mono- or diazafuryl, mono- or diazaphenyl) were prepared by oxidation of the corresponding ArCH2OH precursors with inorg. or organic hypochlorites or hypobromites in the presence of tetraalkylcycloamines I (R1-R4 = C1-4 alkyl; Q = N:O+ X-, NOH, NO; X = anion; Y = O, CO, CR5R6; n = 0,1; R5,R6 = H, OH, organic residue). Thus, 5-hydroxymethyl-3-tert-butylisoxazole, 2,2,6,6-tetramethylpiperidine-1-oxyl, KBr, NaH2PO4·2H2O, Na2HPO4·H2O, CH2Cl2, and H2O were stirred vigorously while 14% aqueous NaOCl was added over 3.5 h to give 77% 5-formyl-3-tert-butylisoxazole.

IT 2564-83-2
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for oxidation of hydroxymethyl heterocycles with hypohalite)

RN 2564-83-2 HCAPLUS
CN 1-Piperidinyloxy, 2,2,6,6-tetramethyl- (CA INDEX NAME)

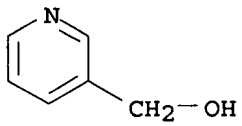


IT 100-55-0, 3-Pyridinemethanol 586-95-8, 4-Pyridinemethanol

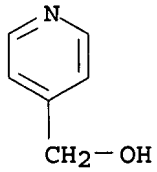
Updated Search

RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, with hypohalite, in the presence of tetraalkylpiperidines)

RN 100-55-0 HCAPLUS
CN 3-Pyridinemethanol (CA INDEX NAME)

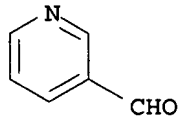


RN 586-95-8 HCAPLUS
CN 4-Pyridinemethanol (CA INDEX NAME)

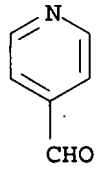


IT 500-22-1P, 3-Pyridinecarboxaldehyde 872-85-5P,
4-Pyridinecarboxaldehyde
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, via hypohalite oxidation of hydroxymethyl precursor)

RN 500-22-1 HCAPLUS
CN 3-Pyridinecarboxaldehyde (CA INDEX NAME)



RN 872-85-5 HCAPLUS
CN 4-Pyridinecarboxaldehyde (CA INDEX NAME)



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